



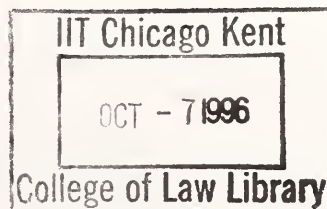
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Rules of Governmental Agencies

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Secretary of State

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Editor's Note: The Cumulative Index and Sections Affected Index will be printed on a quarterly basis. The printing schedule for the quarterly and annual indexes are as follows:

April 19, 1996 - Issue 16: Through	March 31, 1996
July 19, 1996 - Issue 29: Through	June 30, 1996
October 18, 1996 - Issue 42: Through	September 30, 1996
January 17, 1997 - Issue 3: Through	December 31, 1996 (Annual)

INTRODUCTION

The *Illinois Register* is the official state document for publishing public notice of rulemaking activity initiated by State governmental agencies. The table of contents is arranged categorically by rulemaking activity and alphabetically by agency within each category. The Register also contains a Cumulative Index listing alphabetically by agency the Parts (sets of rules) on which rulemaking activity has occurred in the current Register volume year and a Sections Affected Index listing by Title each Section (including supplementary material) of a Part on which rulemaking activity has occurred in the current volume year. Both indices are action coded and are designed to aid the public in monitoring rules.

Rulemaking activity consists of proposed or adopted new rules; amendments to or repealers of existing rules; and rules promulgated by emergency or peremptory action. Executive Orders and Proclamations issued by the Governor; notices of public information required by State statute; and activities (meeting agendas, Statements of Objection or Recommendation, etc.) of the Joint Committee on Administrative Rules (JCAR), a legislative oversight committee which monitors the rulemaking activities of State agencies; is also published in the Register.

The Register is a weekly update to the *Illinois Administrative Code* (a compilation of the rules adopted by State agencies). The most recent edition of the Code along with the Register comprise the most current accounting of State agencies' rules.

The Illinois Register is the property of the State of Illinois, granted by the authority of the Illinois Administrative Procedure Act [5 ILCS 100/1-1 et seq.].

REGISTER PUBLICATION SCHEDULE 1996

Material Rec'd after 12:00 p.m. on:	And before 12:00 p.m. on:	Will be in Issue #:	Published on:	Material Rec'd after 12:00 p.m. on:	And before 12:00 p.m. on:	Will be in Issue #:	Published on:
Dec. 19, 1995	Dec. 26, 1995	1	Jan. 5, 1996	June 25, 1996	July 2, 1996	28	July 12, 1996
Dec. 26, 1995	Jan. 2, 1996	2	Jan. 12, 1996	July 2, 1996	July 9, 1996	29	July 19, 1996
Jan. 2, 1996	Jan. 9, 1996	3	Jan. 19, 1996	July 9, 1996	July 16, 1996	30	July 26, 1996
Jan. 9, 1996	Jan. 16, 1996	4	Jan. 26, 1996	July 16, 1996	July 23, 1996	31	Aug. 2, 1996
Jan. 16, 1996	Jan. 23, 1996	5	Feb. 2, 1996	July 23, 1996	July 30, 1996	32	Aug. 9, 1996
Jan. 23, 1996	Jan. 30, 1996	6	Feb. 9, 1996	July 30, 1996	Aug. 6, 1996	33	Aug. 16, 1996
Jan. 30, 1996	Feb. 6, 1996	7	Feb. 16, 1996	Aug. 6, 1996	Aug. 13, 1996	34	Aug. 23, 1996
Feb. 6, 1996	Feb. 13, 1996	8	Feb. 23, 1996	Aug. 13, 1996	Aug. 20, 1996	35	Aug. 30, 1996
Feb. 13, 1996	Feb. 20, 1996	9	Mar. 1, 1996	Aug. 20, 1996	Aug. 27, 1996	36	Sept. 6, 1996
Feb. 20, 1996	Feb. 27, 1996	10	Mar. 8, 1996	Aug. 27, 1996	Sept. 3, 1996	37	Sept. 13, 1996
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Mar. 5, 1996	Mar. 12, 1996	12	Mar. 22, 1996	Sept. 10, 1996	Sept. 17, 1996	39	Sept. 27, 1996
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Mar. 19, 1996	Mar. 26, 1996	14	Apr. 5, 1996	Sept. 24, 1996	Oct. 1, 1996	41	Oct. 11, 1996
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Apr. 23, 1996	Apr. 30, 1996	19	May 10, 1996	Oct. 29, 1996	Nov. 4, 1996 (Mon.)	46	Nov. 15, 1996
Apr. 30, 1996	May 7, 1996	20	May 17, 1996	Nov. 4, 1996	Nov. 12, 1996	47	Nov. 22, 1996
May 7, 1996	May 14, 1996	21	May 24, 1996	Nov. 12, 1996	Nov. 19, 1996	48	Dec. 2, 1996 (Mon.)
May 14, 1996	May 21, 1996	22	May 31, 1996	Nov. 19, 1996	Nov. 26, 1996	49	Dec. 6, 1996
May 21, 1996	May 28, 1996	23	June 7, 1996	Nov. 26, 1996	Dec. 3, 1996	50	Dec. 13, 1996
May 28, 1996	June 4, 1996	24	June 14, 1996	Dec. 3, 1996	Dec. 10, 1996	51	Dec. 20, 1996
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June 11, 1996	June 18, 1996	26	June 28, 1996	Dec. 17, 1996	Dec. 23, 1996 (Mon.)	1	Jan. 3, 1997
June 18, 1996	June 25, 1996	27	July 5, 1996	Dec. 23, 1996	Dec. 31, 1996	2	Jan. 10, 1997

Please note: When the Register deadline falls on a State holiday, the deadline becomes 4:30 p.m. on Monday (the day before).

ENVIRONMENTAL PROTECTION AGENCY

NOTICE OF PROPOSED AMENDMENT

1) Heading of the Part: Illinois Recommended Standards for Sewage Works

2) Code Citation: 35 Ill. Adm. Code 370

3) Section Numbers: Proposed Action:

370.100	Amend
370.110	New
370.200	Amend
370.210	Amend
370.211	New
370.220	Amend
370.230	Amend
370.250	Amend
370.260	Amend
370.300	Amend
370.310	Amend
370.320	Amend
370.330	Amend
370.340	Amend
370.350	Amend
370.410	Amend
370.420	Amend
370.430	Amend
370.450	Amend
370.470	Amend
370.500	Amend
370.510	Amend
370.520	Amend
370.530	Amend
370.550	Amend
370.560	Amend
370.570	Amend
370.600	Amend
370.610	Amend
370.620	Amend
370.630	New
370.700	Amend
370.710	Amend
370.720	Amend
370.740	Amend
370.750	Amend
370.810	Amend
370.820	Amend
370.830	Amend
370.840	Amend
370.845	New
370.850	Amend
370.860	Amend

ENVIRONMENTAL PROTECTION AGENCY

NOTICE OF PROPOSED AMENDMENT

370.870 Amend
370.900 Amend
370.910 Repeal
370.920 Amend
370.930 Amend
370.940 Amend
370.1000 Amend
370.1010 Amend
370.1020 Amend
370.1021 New
370.1022 New
370.1030 Repeal
370.1040 Repeal
370.1050 Repeal
370.1060 Repeal
370.1070 Repeal
370.1080 Amend
370.1120 Amend
370.1130 Amend
370.1210 Amend
Appendix B Amend
Appendix C Amend
Appendix H Repeal

4) Statutory Authority: Implementing and authorized by Sections 4(h) and 39(a) of the Illinois Environmental Protection Act (415 ICS 5/4(h) and 39(a)).

5) A Complete Description of the Subjects and Issues Involved: Part 370 establishes design standards used by the Illinois EPA in reviewing construction and operating permit applications for wastewater transport and treatment facilities including sewers, pumping stations, wastewater treatment plants and equipment, and sludge processing and handling facilities at treatment plants. These comprehensive revisions, which track the 1990 edition of the "Recommended Standards for Wastewater Facilities" published by the Great Lakes-Upper Mississippi River Board of State Public Health and Environmental Managers (the "Ten State Standards"), reflect experience that has been gained with and changes that have occurred in wastewater treatment methodology and technology since the Illinois design standards were first adopted over 15 years ago. These revisions also eliminate treatment processes that have proved to be ineffective and establish criteria for other treatment processes that have become generally accepted since the Illinois standards were first adopted.

6) Will this rulemaking replace any emergency rulemaking currently in effect?
No

7) Does this rulemaking contain an automatic repeal date? No

ENVIRONMENTAL PROTECTION AGENCY

NOTICE OF PROPOSED AMENDMENT

TITLE 35: ENVIRONMENTAL PROTECTION
SUBTITLE C: WATER POLLUTION
CHAPTER II: ENVIRONMENTAL PROTECTION AGENCY

PART 370
ILLINOIS RECOMMENDED STANDARDS FOR SEWAGE WORKS

SUBPART A: INTRODUCTION

Section	Purpose Introduction Scope and Applicability
370.100	
370.110	
Section	
370.200	General
370.210	Engineering Report
370.211	Design Flows
370.220	Detailed Engineering Plan Drawings Format
370.230	Specifications to Accompany Detailed Engineering Plan Drawings
370.240	Revisions to Approved Plans and Specifications
370.250	Operation During Construction
370.260	Engineers Seal

SUBPART C: DESIGN OF SEWERS

Section	General Considerations
370.300	Design Basis
370.310	Details of Design and Construction
370.320	Manholes
370.330	Sewers in Relation to Streams
370.340	Protection of Water Supplies
370.350	

SUBPART D: SEWAGE PUMPING STATIONS

Section	General
370.410	Design
370.420	Suction-Lift Pump Stations
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370.440	Alarm Systems
370.450	Emergency Operation
370.460	Instructions and Equipment
370.470	Force Mains

SUBPART E: SEWAGE TREATMENT WORKS

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- 3) Does this rulemaking contain incorporations by reference? Yes
- 3) Are there any other proposed rulemakings pending on this Part? No

10) Statement of Statewide Policy Objectives: This rulemaking does not create or expand a mandate under Section 3 of the State Mandates Act (30 ILCS 405/3). These proposed amendments are consistent with the policy objectives set out in Title III of the Environmental Protection Act (415 ILCS 5).

- 11) Time, Place and Manner in which interested persons may comment on this proposed rulemaking: Comments on this rulemaking may be submitted in writing for a period of 45 days following publication of this notice to:

Thomas G. McSwiggin, Manager
Permits Section
Division of Water Pollution Control
Bureau of Water
Illinois Environmental Protection Agency
2200 Churchill Road
Springfield, Illinois 62794-9276

- 12) Initial Regulatory Flexibility Analysis:

A) Types of small businesses, small municipalities and not for profit corporations affected: Consulting engineers engaged in the practice of sanitary engineering; any small business that (1) generates more than 1,500 gallons per day of domestic sewage, (2) treats its own wastewater, for discharge to waters of the State and (3) intends to construct new or modify existing wastewater treatment facilities; or municipalities that intend to construct new or modify existing wastewater treatment facilities.

- B) Reporting, bookkeeping or other procedures required for compliance: This rulemaking does not require any reporting, bookkeeping or other procedures.

- C) Types of professional skills necessary for compliance: No additional professional skills are required by this rulemaking.

13) Regulatory Agenda on which this rulemaking was summarized: This rule was not included on either of the 2 most recent agendas because: It appeared in the January 1995 agenda. Because of the length of Part 370 and the large number of changes proposed, the development of this proposal has taken longer than anticipated.

The full text of the Proposed Amendment begins on the next page:

ENVIRONMENTAL PROTECTION AGENCY

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Section
370.500 Plant Location
370.510 Quality of Effluent
370.520 Design
370.530 Plant Details
370.540 Plant Outfalls
370.550 Essential Facilities
370.560 Safety
370.570 Laboratory

SUBPART F: PRELIMINARY TREATMENT

Section
370.500 General Considerations Screening-Devices
370.610 Screening Devices With-Removal-Facilities
370.620 With-Removal Facilities Pre-Aeration
370.630 Pre-Aeration

SUBPART G: SETTLING

Section
370.700 General Considerations
370.710 Design Considerations
370.720 Sludge and Scum Removal
370.730 Protection and Service Facilities
370.740 Imhoff Tanks
370.750 Septic Tank - Tile System

SUBPART H: SLUDGE PROCESSING, STORAGE AND DISPOSAL

Section
370.800 General
370.810 Process Selection
370.820 Sludge Thickening
370.830 Anaerobic Sludge Digestion
370.840 Aerobic Sludge Digestion
370.845 High pH Stabilization
370.850 Sludge Pumps and Piping
370.860 Sludge Dewatering
370.870 Sludge Storage and Disposal

SUBPART I: BIOLOGICAL TREATMENT

Section
370.900 Trickling Filters
370.910 Rotating Biological Contactors (Repealed)
370.920 Activated Sludge
370.930 Waste Stabilization Ponds and Aerated Lagoons

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370.940 Intermittent Sand Filtration for Secondary Treatment

SUBPART J: DISINFECTION

Section
370.1000 General
370.1010 Disinfection Process Selection Methods-for-Disinfection
370.1020 Chlorine Disinfection Feed-Equipment
370.1021 Dechlorination
370.1022 Ultraviolet Disinfection
370.1030 Chlorine Gas Supply (Repealed)
370.1040 Piping and Connections (Repealed)
370.1050 Housing (Repealed)
370.1060 Respiratory Protection Equipment (Repealed)
370.1070 Application of Chlorine (Repealed)
370.1080 Sampling and Testing

SUBPART K: TERTIARY FILTRATION

Section
370.1100 Applicability
370.1110 Type
370.1120 High Rate Filtration
370.1130 Low Rate Intermittent or Periodically Dosed Sand Filters

SUBPART L: NUTRIENT REMOVAL

Section
370.1200 Phosphorus Removal by Chemical Treatment
370.1210 Ammonia Control

APPENDIX A Table No. 1 - Resident Occupancy Criteria
APPENDIX B Table No. 2 - Commonly Used Quantities of Sewage Flows From Miscellaneous Type Facilities
APPENDIX C Table No. 3 - Air Test Table for Sanitary Sewer Leakage Testing* Agronomic-Fertilization-and-Nitrogen-Opake-Rates-for Various-Illinois-Crops

APPENDIX D Figure No. 1 - Design of Sewers - Ratio of Peak Flow to Daily Average Flow
APPENDIX E Figure No. 2 - Primary Settling
APPENDIX F Figure No. 3 - B.O.D. Removal Single Stage Trickling Filter Units Including Post Settling - No Recirculation Included
APPENDIX G Figure No. 4 - Break Tank Sketch for Potable Water Supply Protection

APPENDIX H Old Section Numbers Referenced (Repealed)

AUTHORITY: Implementing Sections 4 and 39 and authorized by Section 39 of the Environmental Protection Act [415 ILCS 5/4 and 39].

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SOURCE: Adopted at 4 Ill. Reg. 14, p. 24, effective March 31, 1980; codified at 8 Ill. Reg. 19430; recodified at 18 Ill. Reg. 6375; amended at 20 Ill. Reg. _____, effective _____.

NOTE: In this Part, superscript numbers or letters are denoted by parentheses; subscript are denoted by brackets.

SUBPART A: INTRODUCTION

Section 370.100 Purpose Introduction

- a) The purpose of this Part is to establish criteria for the design and preparation of plans and specifications for wastewater collection and treatment systems. Pursuant to authority under Illinois Revised Statutes 1981-CH-111-1-27, Section 1039 and under 35-111-1-Adm Code 309-262-101d, Chapter 3-1, Water Pollution, Section 9677, the Illinois Environmental Protection Agency hereby ratifies and promulgates these sewage works design criteria.
- b) These design criteria are to be used for the design and preparation of plans and specifications for sewage works insofar as the standards apply to normal situations for an individual project.
- c) These design criteria apply to conventional design concepts for sewage collection and treatment systems. Non-conventional concepts or approaches to collection and treatment, particularly for very small systems, are not included. Where such systems are being considered the Agency should be contacted for any design guidance that may be available.
- d) Failure to describe or to identify criteria for a process herein does not imply that such a process may not be used, but only that the Agency will consider the specific information submitted with the unique process design in making its review. Attention is directed to the provisions of Section 370.14(b) for situations involving new process evaluation.
- e) These criteria are intended to establish limiting values for those aspects of plans and specifications which the Agency evaluates and to promote, as far as practicable, uniformity of practice throughout the State. For projects with a design flow average of over 100 million gallons per day (mgd), the application of specific design parameters evaluated on a unit-by-unit basis to insure optimum design performance and cost effective construction in applying these criteria and consideration must be given to the characteristics (including current water quality of the receiving stream and its uses in order to insure compliance with the Rules and Regulations of the Illinois Pollution Control Board hereinafter "IPCB"). Users should also be cognizant of Federal requirements.
- f) The word "shall" is used where practice is sufficiently standardized to warrant compliance with specific requirements, or where safeguarding the public health or protecting water quality justifies

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such definite action. Words such as "should", "may", "recommended", "preferred", indicate desirable procedures or methods with deviations subject to individual project consideration.

g) Definitions of terms and their use are intended to be in accordance with the GLOSSARY. WATER AND WASTEWATER CONTROL ENGINEERING, jointly prepared by the American Public Health Association (APHA), American Water Works Association (AWWA), American Society of Civil Engineers (ASCE), and Water Pollution Control Federation (WPCF), the units of expression are in accordance with the WPCF Manual of Practice Number 67, Units of Expression for Wastewater Treatment.

(Source: Amended at 20 Ill. Reg. _____, effective _____.)

Section 370.110 Scope and Applicability

- a) These design criteria apply to conventional design concepts for wastewater collection and treatment systems. Where non-conventional concepts or approaches to collection and treatment, particularly for very small systems, are being considered, the Agency should be contacted for any design guidance that may be available.
- b) In evaluating plans and specifications for new processes, the Agency will consider the specific information submitted with the design in accordance with the provisions of Section 370.520(b) for situations involving new process evaluation.
- c) These criteria are intended to establish limiting values for those aspects of plans and specifications which the Agency evaluates and to promote, as far as practicable, uniformity of practice throughout the State. For projects with a design flow average of over 100 million gallons per day (mgd), the application of specific design parameters in these criteria should be evaluated on a unit-by-unit basis to insure optimum design performance and cost effective construction. In applying these criteria, consideration must be given to the characteristics (including current water quality) and uses of the receiving stream in order to insure compliance with the applicable regulations of the Illinois Pollution Control Board (hereinafter "IPCB"). Users should also be cognizant of Federal requirements.
- d) The word "shall" is used where practice is sufficiently standardized to warrant compliance with specific requirements, or where safeguarding the public health or protecting water quality justifies such definite action. Words such as "should", "recommended", or "preferred" indicate desirable procedures or methods with deviations subject to individual project consideration.
- e) Definitions of terms and their use are intended to be in accordance with the GLOSSARY - WATER AND WASTEWATER CONTROL ENGINEERING, jointly prepared by the American Public Health Association (APHA), American Water Works Association (AWWA), American Society of Civil Engineers (ASCE), and Water Environment Federation (WEF). The units of

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expression are in accordance with the WEF Manual of Practice Number 6, Units of Expression for Wastewater Treatment.

(Source: Added at 20 Ill. Reg. _____, effective _____)

SUBPART B: ENGINEERING REPORTS, PLANS AND SPECIFICATIONS

Section 370.200 General

The criteria in this Subpart B are intended to be the technical basis for the preparation of the engineering reports and plans and specifications for the waste collection and treatment works. ~~The non-technical state and federal regulatory requirements for planning are too variable and expansive for inclusion in these standards. These criteria will guide the technical design preparation of all applicable waste collection and treatment systems but for the project planning requirements, applicable State and Federal guidance, regulations and statutes shall be consulted used.~~

a) Grant Projects
For projects that will be funded by State and/or Federal grants, ~~applicable appropriate~~ regulations, policy and guidance documents will govern the non-technical requirements and shall be used ~~utilized~~ in the facility planning process.

b) Non Grant Projects

For those projects which are not covered by applicable State or Federal project planning requirements or for those other projects in which there is no project planning guidance in the applicable State or Federal regulations or statutes, the project planning guidance set forth in Section 370.112 shall be utilized.

(Source: Amended at 20 Ill. Reg. _____, effective _____)

Section 370.210 Engineering Report

a) General

1) The engineering report assembles basic information; presents design criteria and assumptions; examines alternate projects including preliminary layouts and cost estimates; describes financing methods, user charges and operation and maintenance costs; reviews organizational and staffing requirements; offers a conclusion with a proposed project for client consideration; and outlines official actions and procedures to implement the project.

2) The concept, factual data and controlling assumptions and considerations for the functional planning of sewerage facilities are presented for each process unit and for the whole system. These data form the continuing technical basis for the detailed

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design and preparation of construction plans and specifications.
3) Architectural, structural, mechanical and electrical designs are usually excluded. Sketches may be used to aid in presentation of a project. Outline specifications of process units, special equipment, etc., may be ~~are sometimes~~ included.

4) Engineering reports ~~are not with-not-normally~~ be required for sewer extensions or sewer connections, but shall be required for the following projects:

- A) New treatment plants.
- B) Expansion or major modification of existing plants.
- C) New collection systems.
- D) Major upgrading of existing collection systems.

b) Content

The engineering report ~~to be acceptable for review and approval~~ shall:
1) Prescribe design period and population with adequate justification.

2) Describe ~~Prescribe~~ the specific service area for immediate consideration and indicate possible extensions and ultimate use.

3) Present data and information on anticipated quantities of flow and wastewater constituents. Data from comparable existing installations may be used to develop the design basis of the proposed facilities if data for the project under design cannot be obtained in accordance with procedures set forth in Subparts C, D and E of these standards.

4) Specify the scope and nature of collection system including pump stations and force mains for immediate and ultimate service areas.

5) Discuss various treatment alternatives with reference to optimum treatability and other relevant factors.

6) Develop a detailed basis of design for the recommended treatment process.

7) Indicate compliance with applicable effluent limitations and discuss impact of project on receiving waters.

8) ~~Indicate compliance with the requirements of the Illinois Groundwater Protection Act [415 ILCS 55].~~

(Source: Amended at 20 Ill. Reg. _____, effective _____)

Section 370.211 Design Flows

The following flows shall be identified in the basis of design for sewers, lift stations, sewage treatment plants, treatment units and other wastewater handling facilities.

a) Design Average Flow

The ~~design average~~ flow is the average of the daily volumes to be received for a continuous 12-month period of the design year, expressed as a volume per unit of time.

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b) Design Maximum Flow

The design maximum flow is the largest volume of flow to be received during a continuous 24-hour period, expressed as a volume per unit of time.

c) Design Peak Hourly Flow

The design peak hourly flow is the largest volume of flow to be received during a one hour period, expressed as a volume per unit of time.

d) Design Peak Flow

The design peak flow is the instantaneous maximum flowrate to be received.

(Source: Added at 20 Ill. Reg. _____, effective _____)

Section 370.220 Detailed Engineering Plan Drawings Format

a) General

Detail plans shall contain as necessary, the following:

- 1) Plan views.
- 2) Elevations.
- 3) Sections and supplementary views which, together with the specifications and general layouts, facilitate construction of the works.
- 4) Dimensions and relative elevations of structures.
- 5) Location and outline form of equipment.
- 6) Location and sizing of piping.
- 7) Water levels.
- 8) Ground elevations.
- 9) Location and identification of all private and public water supply wells, structures and facilities.
- 10) Descriptive notations as necessary for clarity.

b) Plans of Sewers

- i) General Plan
Except as provided in subsection (b)(1)(C) below, a comprehensive plan of the existing and proposed sewers shall be submitted for projects involving new sewer systems or substantial additions to existing systems ~~except as provided in subsection (b)(1)(C)~~. This plan shall show the following:
 - A) Geographical Features
 - i) Topography and elevations: Existing or proposed streets and all streams or water surfaces shall be clearly shown. Contour lines at suitable intervals should be included.
 - ii) Streams: The direction of flow in all streams, and high and low water elevations of all water surfaces at sewer outlets and overflows shall be shown.
 - iii) Boundaries: The boundary lines of the municipality

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and the sewer district or area to be sewerred shall be shown.

B) Sewers

The plan shall show the location, size and direction of flow of all existing and proposed sanitary and combined sewers draining to the treatment works concerned.

C) Sewer Atlas

The comprehensive plan of the existing sewers described above need not be submitted in each case if the system owner has furnished the Agency a copy of its sewer atlas showing the information required by subsection (b)(1). The project submittal, however, must include all the proposed work, and must be accompanied by a location map showing the proposed project and the route of the outlet sewer to the receiving plant, where necessary.

2) Detail Plans

Detail plans shall be submitted. Profiles should have a horizontal scale of not more than 100 feet to the inch and a vertical scale of not more than 10 feet to the inch. Plan views should be drawn to a corresponding horizontal scale. Plans and profiles shall show:

- A) Location of streets and sewers.
- B) Line of ground surface, size, material and type of pipe, length between manholes, invert and surface elevation at each manhole, and grade of sewer between each two adjacent manholes. All manholes shall be numbered on the plan and correspondingly numbered on the profile.
- C) Except where overhead sewers are required by local ordinance, if there is any question of the sewer being sufficiently deep to serve any residence, the elevation and location of the basement floor shall be plotted on the profile of the sewer which is to serve the house in question. The engineer shall state that all sewers are sufficiently deep to serve adjacent basements except where otherwise noted on the plans.
- D) Locations of all special features such as inverted siphons, concrete encasements, elevated sewers, etc.
- E) All known existing structures both above and below ground which might interfere with the proposed construction, particularly water mains, gas mains, storm drains, etc.
- F) Special detail drawings, made to a scale to clearly show the nature of the design, shall be furnished to show the following particulars:
 - i) All stream crossings and sewer outlets, with elevations of the stream bed and of normal and extreme high and low water levels.
 - ii) Cross sections and details of all special or non standard joints.

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- iii) Details of all sewer appurtenances such as manholes, lampholes, inspection chambers, inverted siphons, regulators, tide gates and elevated sewers.

c) Plans of Sewage Pumping Stations

- 1) Location Plan
A plan shall be submitted for projects involving construction or revision of pumping stations. This plan shall show the following:

- A) The location and extent of the tributary area.
B) Any municipal boundaries within the tributary area.
C) The location of the pumping station and force main.

- 2) Detail Plan
Detail plans shall be submitted showing the following where applicable:

- A) Grading plan of the station site.
B) Location of existing pumping station.
C) Proposed pumping station, including provisions for installation of future pumps or ejectors.
D) Elevation of high flood water at the site, and maximum elevation of sewage in the collection system upon occasion of power failure, and the pumping station elevations.
E) Test borings and groundwater elevations.
F) Force main routing and profile.

d) Plans of Sewage Treatment Plants

- 1) Location Plan

- A) A plan shall be submitted showing the sewage treatment plant in relation to the remainder of the system.

- B) Sufficient topographic features shall be included to indicate its location with relation to streams and the point of discharge of treated effluent.

- C) All residences within one-half mile of the site shall be shown.

- 2) General Layout

- Layouts of the proposed sewage treatment plant shall be submitted, showing:

- A) Topography of the site.

- B) Size and location of plant structures.

- C) Schematic flow diagram showing the flow through various plant units.

- D) Piping, including any arrangements for by-passing individual units. Materials handled and direction of flow through pipes shall be shown.

- E) Test borings and expected range of ground water elevations.

- 3) Detail Plans

- Detail plans shall show the following:

- A) Location, dimensions and elevations of all existing and proposed plant facilities, including flood protection structures where applicable.

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- B) Elevations of high and low water levels of the body of water to which the plant effluent is to be discharged.

- C) Type, size, pertinent features, and manufacturer's rated capacity of all pumps, blowers, motors and other mechanical devices.

- D) Hydraulic profiles of the treatment plant at design peak flow including recirculated flows at the 25-year flood elevation in the receiving watercourse. To ensure their proper functioning, the hydraulic profile at measuring devices at minimum flow shall be shown. ~~Minimum average~~ ~~and instantaneous peak hydraulic profiles showing the flow of sewage supernatant liquor recirculating flows and~~ ~~sludges.~~

- E) Hydraulic profiles shall be shown for supernatant liquor lines, recirculating flow piping and sludge transfer lines at the design peak flows carrier by each system.

- F) Adequate description of any features not otherwise covered by specifications or engineer's report.

(Source: Amended at 20 Ill. Reg. _____, effective _____)

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(Source: Amended at 20 Ill. Reg. _____, effective _____)

Section 370.250 Operation During Construction

Specifications shall contain a time schedule describing the plant and collection system operational modes during construction. Where units essential to efficient quality are involved, temporary measures, such as wet hauling, sludge storage lagoons and portable pumping facilities shall be included in the specifications so as to ensure continuity of operation as required and approved by the Agency.

(Source: Amended at 20 Ill. Reg. _____, effective _____)

Section 370.260 Engineers Seal

Plans and specifications, prepared by an Illinois Registered Professional Engineer when required by Section 14 of the Illinois Professional Engineering Act [225 ILCS 325/14] ([http://rev-sear.ch.gov/cn-117/pars-119-ee-sear.ch](#)), fully describing the design, nature, function and interrelationship of each individual component of the facility or source, shall be submitted, except that the Agency may waive this requirement for plans and specifications when the application is for a routine renewal.

(Source: Amended at 20 Ill. Reg. _____, effective _____)

SUBPART C: DESIGN OF SEWERS

Section 370.300 General Considerations

- a) **Type of Sewers**
The Agency will approve plans for new sewer systems and extensions only when designed as the separate sanitary type in which precipitation runoff and ground water from foundation drains are excluded. The Agency will not approve the installation of new combined sewers, except as provided in 35 Ill. Adm. Code 306.302 ~~for~~ **by the applicable IPCC-Regulations.**
- b) **Design Period**
Sewer systems should be designed for the estimated ultimate tributary population, except in considering parts of the systems that can be readily increased in capacity. Similarly, consideration should be given to the maximum anticipated capacity of institutions, industrial parks, etc.
- c) **Design Factors**
In determining the required capacities of sanitary sewers, the following factors should be considered:

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The basis of design for all sewer projects shall accompany the plan documents. Calculations shall be submitted to show that sewers will have sufficient hydraulic capacity to transport ~~at~~ the design peak flows.

(Source: Amended at 20 Ill. Reg. _____, effective _____)

Section 370.320 Details of Design and Construction

- a) ~~Minimum Manhole~~ Size
No public gravity sewer conveying raw sewage shall be less than 8 inches in diameter.
- b) Depth
Sewers shall be sufficiently deep to prevent freezing. Sewers should be sufficiently deep to serve basements except where overhead sewers are required by local ordinances or will be provided.
- 1) Minimum Cover
The minimum cover of sewers shall be no less than 3 feet unless special structural protection is provided.
- 2) Buoyancy
Where high ground water conditions are anticipated, buoyancy of sewers shall be considered and, if necessary, adequate provisions should be made for protection.
- c) Slope

- 1) All sewers shall be designed and constructed to give mean velocities, when flowing full, of not less than 2.0 feet per second, based on Manning's ~~rate's~~ formula using an "n" value of 0.013. The following minimum slopes shall be provided; however, slopes greater than these are desirable:

Sewer Size	Per 100 Feet	Flow (mgd)
8 inch	0.40	0.49 0-45
10 inch	0.28	0.75 0-70
12 inch	0.22	1.07 1-02
14 inch	0.17	1.43 1-40
15 inch	0.15	1.61 1-57
16 inch	0.14	1.85 1-70
18 inch	0.12	2.35 2-30
21 inch	0.10	3.23 3-20
24 inch	0.08	4.13 4-00
27 inch	0.067	5.17 5-15
30 inch	0.058	6.37 6-36
33 inch	0.050	7.56
36 inch	0.046	9.23 9-24

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- 42 inch 0.036 12.11
- 2) Under special conditions, if detailed justifiable reasons are given, slopes slightly less than those required for the 2.0 feet per second velocity when flowing full may be permitted. Such decreased slopes will only be considered where the depth of flow will be 0.3 of the diameter or greater for design average flow. Whenever such decreased slopes are selected, the design engineer must furnish with his report his computations of the depths of flow in such pipes at minimum, design average, and design peak rates of flow. It must be recognized that decreased slopes may cause additional sewer maintenance expense and special linings or materials should be considered for corrosion protection.

3) Uniform Slope

Sewers shall be laid with uniform slope between manholes.

4) Steep Slope Protection

Sewers on 20 percent slope or greater shall be anchored securely with concrete anchors or equal, spaced as follows:

- A) Not over 36 feet center to center on grades 20 percent and up to 35 percent.
- B) Not over 24 feet center to center on grades 35 percent and up to 50 percent.
- C) Not over 16 feet center to center on grades 50 percent and over.

d) Alignments

1) Straight Alignments

Except as noted in subsection (d)(2), all sewers shall be laid with straight alignments between manholes.

2) Curvilinear Alignments

Curvilinear sewers are permitted in special cases provided the following minimum requirements are met:

- A) Curvilinear Sewers 24 inches in Diameter and Smaller
- Location: Curvilinear alignments should follow the general alignment of streets.
 - Type Curve: Only simple curve design is acceptable.
 - Radius of Curvature: The minimum allowable radius of curvature is 300 feet.
 - Manholes: Manholes are required at the beginning and end of all curves.
 - Joints: Compression joints are required. The ASTM or AWWA American Society for Testing and Materials (ASTM) maximum allowable deflection of the pipe joints shall not be exceeded.
 - Velocity: In order to maintain a minimum velocity of 2 feet per second in curvilinear sewers, hydraulics of the curvilinear alignment shall be taken into account and the minimum slopes indicated in subsection (c)(1) must be increased accordingly.

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- B) Curvilinear Sewers 24 Inches Through 48 Inches in Diameter
Curvilinear sewers larger than 24 inches in diameter up to 48 inches in diameter constructed with pressure pipe meeting AWWA standards may be used. Other curvilinear ~~curvilinear~~ sewers larger than 24 inches in diameter up to 48 inches in diameter shall meet the requirements of subsection (d)(2)(A) except that the joints must be manufactured so that they fit together squarely without deflection at the design curvature and the radius of curvature may be less than 300 feet.
- C) Curvilinear Sewers Larger Than 48 Inches in Diameter
Curvilinear sewers larger than 48 inches in diameter shall be provided with square fitting compression joints and shall meet the requirements of subsection (d)(2)(A)(vi). The remaining design requirements under subsection (d)(2)(A) for these sewers will be reviewed by the Agency on a case by case basis.
- e) Increasing Size
When a smaller sewer joins a larger one, the invert of the larger sewer should be sufficiently lower to maintain the energy gradient. An approximate method for securing these results is to place the 0.8 depth point of both sewers at the same elevation.
- f) High Velocity Protection
Where velocities greater than 15 feet per second are attained, the special provisions described in subsection (c)(4) shall be made to protect against displacement by erosion and shock.
- g) Materials and Installation

1) Materials

- A) Any generally accepted material for sewers will be given consideration, but the material selected should be suitable for local conditions, such as character of industrial wastes, possibility of septicity, soil characteristics, exceptionally heavy external loadings, abrasion, structural considerations and similar problems.
- B) All sewers shall be designed and installed to prevent damage from superimposed loads. Proper allowance for loads on the sewer shall be made because of the width and depth of trench. When the bearing strength of the pipe is not adequate to withstand the superimposed loading, other pipe material, special handling, concrete cradle or special construction shall be used.
- C) For new pipe materials for which ASTM standards have not been established (see subsection (g)(2)), the designing engineer shall provide complete installation specifications developed on the basis of criteria adequately documented and certified in writing by the pipe manufacturer to be satisfactory for the design conditions for the specific project. Such documentation and manufacturers' certification shall be submitted as a part of the project

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plan documents.

2) Installation

A) Standards

- i) Installation specifications shall contain appropriate requirements based on the criteria, standards and requirements established by ASTM. Requirements shall be set forth in the specifications for the pipe and methods of bedding and backfilling thereof so as not to damage the pipe or its joints, impede cleaning operations and future tapping, nor create excessive side fill pressures or ovalation of the pipe, nor seriously impair flow capacity.
- ii) For new pipe material, the installation specifications shall meet the provisions of subsection (g)(1).
- B) Trenching
- i) The width of the trench shall be ample to allow the pipe to be laid and jointed properly and to allow the backfill to be placed and compacted as needed. The trench sides shall be kept as nearly vertical as possible. When wider trenches are dug, appropriate bedding class and pipe strength shall be used.
- ii) Ledge rock, boulders, and large stones shall be removed to provide a minimum clearance of 4 inches below and on each side of all pipe- and joints.

C) Bedding

- i) Bedding classes A, B, or C, as described in ASTM C12-86, or Standard Specifications for Water and Sewer Main Construction in Illinois, 11th ed. (May 1986) (no later additions or amendments) ~~74-American National Standards Institute (ANSI)-A106-27~~ or WPCF Manual of Practice (MOP) No. 9 FD-5 (1982) (no later additions or amendments) (ASCE MOP No. 60, 37 1982) (no later additions or amendments) shall be used for all rigid pipe provided the proper strength pipe is used with the specified bedding to support the anticipated load.
- ii) Bedding classes I, II, or III, as described in ASTM C2321-83a, ~~74-ANSI-A65-1717~~ or Standard Specifications for Water and Sewer Main Construction in Illinois, 11th ed. (May, 1986) (no later additions or amendments), or WPCF MOP No. FD-5, (1982) (no later additions or amendments) shall be used for all flexible pipe provided the proper strength pipe is used with the specified bedding to support the anticipated load.

D) Backfill

- i) Backfill shall be of a suitable material removed from excavation except where other material is specified. Debris, frozen material, large clods or stones, organic matter, or other unstable materials shall not be used

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for backfill within 2 feet of the top of the pipe.

ii) Backfill shall be placed in such a manner as not to disturb the alignment of the pipe.

iii) For flexible pipe, as a minimum, backfill material shall be placed and carefully compacted in accordance with ASTM D321-74 to provide the necessary support for the pipe.

3) Deflection Testing of Flexible Pipe.

A) The design specifications shall provide that the first 1200 feet of sewer and at least 10% of the remainder of the sewer project shall be deflection tested. The entire length of a sewer of less than 1200 feet shall be deflection tested. ~~Selected portions of the project to be deflection tested. Such portions shall consist of the manhole intervals in the initial 1200 feet of sewer and not less than 10% of the remainder of the sewer project.~~

B) If the deflection test is to be run using a rigid ball or mandrel, it shall have a diameter equal to 95% of the inside or base diameter of the pipe as established in the proposed ASTM standard to which the pipe is manufactured B-904. The test shall be performed without mechanical pulling devices.

C) The individual lines to be tested shall be so tested for final acceptance no sooner than 30 days after they have been installed.

D) Whenever possible and practical, the testing shall initiate at the downstream lines and proceed towards the upstream lines.

E) No pipe shall exceed a deflection of 5%.

F) In the event that the deflection exceeds the 5% limit in 10% or more of the manhole intervals tested, the total sewer project shall be tested.

h) Joints and Infiltration

1) Joints

The type and method of making joints and the materials used shall be included in the specifications and also shall be shown on the plans. Sewer joints shall be specified to minimize infiltration and to prevent the entrance of roots. Joint material shall conform to ASTM standards. Cement grout joints shall not be used for pipe to pipe joints.

2) Leakage Testing

Leakage tests shall be specified.

A) Test Sections

The design specifications shall provide that the first 1200 feet and at least 10% of the remainder of the sewer project shall be tested for leakage. The entire length of a sewer of less than 1200 feet shall be tested for leakage. In the event that 10% or more of the manhole intervals tested do not pass the leakage test, the entire sewer project shall be

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tested.

B) Air Testing Methods

Testing methods may include appropriate water or low pressure air testing. The use of television cameras or other visual methods for inspection prior to placing the sewer in service and prior to acceptance is recommended.

C) Water Testing

i) The leakage outward or inward (exfiltration or infiltration) shall not exceed the following limits in gallons per inch of pipe diameter per mile per day for any section of the system:
Exfiltration: 240
Infiltration: 200

ii) An exfiltration or infiltration test shall be performed with a minimum positive head of 2 feet.

D) Air Testing

If used, the air test shall, as a minimum, conform to the test procedure described in Section 31-1.11B of Standard Specifications for Water and Sewer Main Construction in Illinois, 11th ed., (May, 1986) (no later additions or amendments). ~~ASTM--C-920-76--entitled--tentative--Recommended Practice--for--Low-Pressure--Air--Test--of--Vitrified--Clay--Pipe--Bines--~~ The specifications shall require that the time required for a pressure drop from 3.5 to 2.5 PSIG not be less than the time specified in the Air Test Table in Appendix C. The testing methods selected should take into consideration the range in groundwater elevations projected and the situation during the test.

i) Service Connections

Sewer service connections shall meet the same criteria as public sanitary sewers described elsewhere in this Subpart C except as noted below. ~~in subsections 11111 and 11127.~~ Roof and foundation drain connections to the sewer service connection are prohibited except as provided for in 35 Ill. Adm. Code 306.302. The service connection tap into the public sewer shall be watertight and shall not protrude into the public sewer. If a saddle type connection is used, it shall be a commercially available device designed to join with the types of pipe that are to be connected. All materials used to make service connections shall be compatible with one another and with the pipe materials to be joined, and shall be corrosion-proof.

1) Size

Service sewers and fittings shall be a minimum of 4 inches in diameter, but shall not be less than the diameter of the plumbing pipe from the building.

2) Slope

Service sewers shall have a minimum slope of 1%.

3) Alignment

When straight line alignment is not maintained on service

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connections, cleanouts or manholes shall be provided at points of changes in alignment.

(Source: Amended at 20 Ill. Reg. _____, effective _____)

Section 370.330 Manholes

a) Location

Except as noted in Section 370.123(d)(2), manholes shall be installed at the end of each line; at all changes in grade, size or alignment; at all sewer intersections; and at distances not greater than 400 feet for sewers 15 inches or less, and 500 feet for sewers 18 inches through 30 inches. Distances up to 600 feet may be approved in cases where adequate modern cleaning equipment for such spacing is provided. Greater spacing may be permitted in larger sewers and in those carrying a settled effluent. Manholes may be used only for special conditions and shall not be substituted for manholes nor installed at the end of laterals greater than 150 feet in length.

b) Type

1) Drop Type

A An-outside-drop pipe shall be provided for a sewer entering a manhole where its invert elevation is more than 24 inches above the manhole invert. If an inside drop pipe is used, the manhole diameter shall be large enough to provide a minimum clearance of 48 inches between the pipe and the opposite side of the manhole.

Inside drop pipes shall be anchored to the manhole wall with corrosion-proof fasteners and bands. For sewers 36 inches in diameter or greater, the requirements for a drop pipe do not apply if the spring line of the incoming pipe is at or below the spring line of the main sewer. As a minimum, the diameter of the drop pipe shall be at least 2/3 as large as the diameter of the sewer tributary to the drop pipe.

2) Non Drop Type

Where the difference in elevation between the incoming sewer invert and the manhole invert is less than 24 inches, the manhole invert should be filleted to prevent solids deposition.

c) Diameter

1) For sewers 36 inches in diameter and smaller, the minimum diameter of manholes shall be 48 inches. For sewers larger than 36 inches in diameter, the manhole diameter at the invert shall be sufficiently large to accommodate the incoming pipes; and the riser barrel diameter shall be a minimum of 48 inches.

2) A minimum access lid diameter of 24 inches shall be provided.

d) Flow Channel

The flow channel through manholes should be made to conform in shape and slope to that of the sewers. A bench shall be provided which should have a minimum slope of 2 inches per foot.

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e) Watertightness

1) Construction Requirements
Watertight manhole covers shall be used wherever the manhole tops may be flooded by surface runoff or high water or are below cover. Pickholes shall not be larger than 1 inch in diameter or shall be of the concealed type. Construction lifting holes on manhole rings shall be plugged from the outside and the exterior and joints of the manhole elements shall be waterproofed. Precast inlet and outlet connections fitted with "O" rings or other equally watertight connections shall be provided. ~~Pickholes shall not be larger than 1 inch in diameter or shall be of the concealed type.~~

2) Inspection

The specifications shall include a requirement for inspection and leakage testing of all manholes for watertightness prior to placing into service.

(Source: Amended at 20 Ill. Reg. _____, effective _____)

Section 370.340 Sewers in Relation to Streams

a) Location of Sewers on Streams

1) Cover Depth

A) The top of all sewers entering or crossing streams shall be at a sufficient depth below the natural bottom of the stream bed to protect the sewer line. In general the following cover requirements must be met:

- i) One foot of cover is required where the sewer is located in rock.
- ii) Three feet of cover is required in other material. In major streams, more than three feet of cover may be required.
- iii) In paved stream channels, the top of the sewer line should be placed below the bottom of the channel pavement.

B) Less cover will be approved only if the proposed sewer crossing will not interfere with the future improvements to the stream channel. Reasons for requesting less cover should be given in the project proposal.

2) Horizontal Location

Sewers located along streams shall be located outside of the stream bed and sufficiently removed therefrom to provide for future possible stream widening and to prevent pollution by siltation during construction.

3) Structures

The sewer outfalls, headwalls, manholes, gate boxes, or other structures shall be located so they do not interfere with the

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free discharge of flood flows of the stream.

4) Alignment

Sewers crossing streams should be designed to cross the stream as nearly perpendicular to the stream flow as possible and shall be designed without change in grade. Sewer systems shall be designed to minimize the number of stream crossings.

b) Construction

1) Materials and Backfill

A) Sewers entering or crossing streams shall be constructed of cast or ductile iron pipe with mechanical joints, and shall be capable of absorbing pipe movement and joint deflection while remaining intact and watertight. ~~otherwise they shall be constructed so they will remain watertight and free from changes in alignment or grade.~~

B) The backfill used in the trench shall be coarse aggregate, gravel, or other materials which will not cause siltation, pipe damage during placement or chemical corrosion in place.

2) Siltation and Erosion

Construction methods that will minimize siltation and erosion shall be employed. The design engineer shall include in the project specifications the methods to be employed in the construction of sewers in or near streams to provide adequate control of siltation and erosion. Specifications shall require that cleanup, grading, seeding, and planting or restoration of all work areas shall begin immediately. Exposed areas shall not remain unprotected for more than seven days.

c) Aerial Crossings

1) Structural Support

Support shall be provided for all joints in pipes utilized for aerial crossings. The supports shall be designed to prevent frost heave, overturning and settlement.

2) Freeze and Expansion Protection

Protection against freezing shall be provided. This may be accomplished through the use of insulation and increased slope. Expansion jointing shall be provided between the aerial and buried sections of the sewer line.

3) Flood Clearance

For aerial stream crossings, the impact of flood waters and debris shall be considered. The bottom of the pipe should be placed no lower than the elevation of the 50 year flood.

d) Inverted Siphons

Inverted siphons shall have not less than 2 barrels, with a minimum pipe size of 6 inches and shall be provided with necessary appurtenances for convenient flushing and maintenance; the inlet and outlet structures shall have adequate clearances for rodding; and in general, sufficient head shall be provided and pipe sizes selected to secure velocities of at least 3.0 feet per second for design average flows. The inlet and outlet structures shall be designed so that the

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design average normal flow is diverted to 1 barrel, and so that either barrel may be cut out of service for cleaning.

(Source: Amended at 20 Ill. Reg. _____, effective _____)

Section 370.350 Protection of Water Supplies

a) Water Supply Interconnections

There shall be no physical connections between a public or private potable water supply system and a sewer, or appurtenance thereto, which would permit the passage of any sewage or polluted water into the potable supply.

b) Location Relative to Water Works Structures

1) Location and Soil Condition

A) The engineering plan documents shall show the location of all existing water works structures (basins, wells, other treatment units, etc.) that are within 200 feet of the proposed sewer.

B) Soil conditions in the vicinity of the water works structures shall be investigated and depicted on the plans.

2) Minimum Distances

The following minimum distances apply to clay and loam soils and, as a minimum, shall be doubled for sand. In areas where creviced limestone or gravel may be encountered, the Agency shall be contacted for a determination as to what minimum separation distances and special construction will be required.

A) Non-watertight sewers and sewer appurtenances such as manholes and wetwells shall not be located closer than 50 feet from water works structures.

B) Sewers located closer than 50 feet to water works structures shall be constructed with water main quality pipe and joints that comply with 35 Ill. Adm. Code 653.119. All such pipe shall be pressure tested to assure watertightness prior to backfilling. No sewer shall be located closer than 10 feet from water works structures. Cast-iron pipe with gaskets with leaded or mechanical joints shall not be located closer than 25 feet from water works structures.

C) Sewers constructed of extra-heavy cast-iron pipe, asbestos cement pressure pipe or pre-stressed concrete pipe with pressure tested leaded, mechanical or slip-on joints shall not be located closer than 10 feet from water works structures.

c) Relation to Water Mains

1) Horizontal and Vertical Separation

A) Whenever possible, a sewer horizontally from any existing or proposed water main.

B) Should local conditions exist which would prevent a lateral

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2) Water-Sewer Line Crossings

separation of ten feet, a sewer may be closer than ten feet to a water main provided that the water main invert is at least eighteen inches above the crown of the sewer, and is either in a separate trench or in the same trench on an undisturbed earth shelf located to one side of the sewer. If it is impossible to obtain proper horizontal and vertical separation as described above, both the water main and sewer must be constructed with water main quality pipe and joints that comply with 35 Ill. Adm. Code 653.119 and shall be pressure tested to assure watertightness before backfilling. of---lift-on---or---mechanical---joint---cast---iron---pipe asbestos-cement-pressure-pipe-prestressed-concrete-pipe-or pvc-pipe-complying-with-the-public-water-supply-design standards-of-the-Agency-and-be-pressure-tested-to-assure watertightness-before-backfitting

A) Whenever possible, sewers crossing water mains shall be laid with the sewer below the water main with the crown of the sewer a minimum of 18 inches below the invert of the water main. The vertical separation shall be maintained on each side of the crossing until the perpendicular distance from the water main to the sewer is at least 10 feet. The crossing shall be arranged so that the sewer joints will be equidistant and as far as possible from the water main joints. Adequate support shall be provided for the water mains to prevent damage due to settling of the sewer trench. Refer to Appendix H, Drawing No. 1. Sewers crossing water mains shall be laid to provide a minimum vertical distance of 18 inches between the outside of the water main and the outside of the sewer. This shall be the case where the water main is either above or below the sewer. The crossing shall be arranged so that the sewer joints will be equidistant and as far as possible from the water main joints. Where a water main crosses under a sewer, adequate structural support shall be provided for the sewer to prevent damage to the water main. B) Where a sewer crosses under a water main and it is not possible to provide an 18-inch vertical separation, the following special construction methods shall be specified (refer to Appendix H, Drawing No. 2): when it is impossible to obtain proper horizontal and vertical separation as stipulated above, one of the following methods must be specified:

i) The sewer shall either be constructed with water main pipe and joints that comply with 35 Ill. Adm. Code 653.119 and shall be pressure tested or shall be encased in a carrier pipe with the ends sealed, that, along with the joints, complies with 35 Ill. Adm. Code

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653.119. The sewer shall be designed and constructed equal to water pipe and shall be pressure tested to assure watertightness prior to backfitting.

ii) The water main quality sewer or carrier pipe shall extend on each side of the crossing to a point where the perpendicular distance from the water main to the sewer is at least 10 feet. Either the water main or the sewer line may be encased in a watertight carrier pipe which extends 10 feet on both sides of the crossing, measured perpendicular to the water main. The carrier pipe shall be of materials approved for use in water main construction as set forth in the Technical Policy Statements of the Agency's Division of Public Water Supplies.

iii) If the required length of the water main quality sewer or carrier pipe, omit the select granular cradle and granular backfill to one foot over the crown of the sewer, and use selected excavated material (Class IV) and compact to 95% of Standard Proctor maximum density. iv) Point loads between the sewer or sewer casing and the water main are prohibited.

v) Adequate support shall be provided for the water main to prevent damage due to settling of the sewer trench. C) Where it is not possible for a proposed sewer to cross under an existing water main, the specifications shall require the construction methods set out in subsection (C)(2)(B) above and shall require that any select granular backfill above the crown of the water main be removed within the width of the proposed sewer trench and be replaced with select excavated material (Class IV) compacted to 95% of Standard Proctor maximum density. Where a proposed sewer must cross over a proposed water main, an 18-inch vertical separation shall be maintained. Refer to Appendix H, Drawing No. 3.

3) Sewer Manhole Separation From Water Main
No water pipe shall pass through or come into contact with any part of a sewer manhole.

(Source: Amended at 20 Ill. Reg. _____, effective _____)

SUBPART D: SEWAGE PUMPING STATIONS

Section 370.410 Design

The following items should be given consideration in the design of sewage pumping stations:

- a) Type
Sewage pumping stations in general use fall into three types: wet

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well/dry well, submersible, and suction lift.

b) Structures

- 1) Separation

Dry wells, including their superstructure, shall be completely separated from the wet well. Common walls must be gastight.
- 2) Pump Removal
- 3) Access
 - A) Suitable and safe means of access shall be provided to dry wells and to wet wells. Access to wet wells containing either bar screens or mechanical equipment requiring inspection or maintenance shall conform to Section 370.600(a)(2)(C).
 - B) For built-in-place pump stations, a stairway to the dry well with rest landings shall be provided at vertical intervals not to exceed 12 feet. For factory-built pump stations over 15 feet deep, a rigidly fixed landing shall be provided at vertical intervals not to exceed 10 feet. Where a landing is used, a suitable and rigidly fixed barrier shall be provided to prevent an individual from falling past the intermediate landing to a lower level. A manlift or elevator may be used in lieu of landings in a factory-built station, provided emergency access is included in the design.
- 4) Buoyancy

Where high ground water conditions are anticipated, buoyancy of the sewage pumping station structures shall be considered and, if necessary, adequate provisions shall be made for protection.

c) Pumps and Pneumatic Ejectors

- 1) Multiple Units

Multiple pumps or ejector units shall be provided. Where only two units are provided, they shall be of the same size. Units shall have capacity such that, with any unit out of service, the remaining units will have capacity to handle the design peak ~~maximum~~ sewer flows. A single pump equipped with an audio-visual alarm system to warn of failure may be used when serving only one single-family dwelling.
- 2) Protection Against Clogging
 - A) Pumps handling combined sewage shall be preceded by readily accessible bar racks to protect the pumps from clogging or damage. Bar racks should have clear openings not exceeding 1 inch. Where a bar rack is provided, a mechanical hoist shall also be provided. Where the size of the installation warrants, mechanically cleaned and/or duplicate bar racks shall be provided.
 - B) Pumps handling separate sanitary sewage from 30 inch or larger diameter sewers shall be protected by bar racks meeting the above requirements. Appropriate protection from

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clogging shall also be considered for small pumping stations.

- 3) Pump Openings

Pumps handling raw sewage shall be capable of passing spheres of at least 3 inches in diameter. Pump suction and discharge openings shall be at least 4 inches in diameter. Grinder pumps that do not meet these requirements may be used solely for lift stations with a capacity of 70 gpm or less with the largest unit out of service.
- 4) Priming

The pump shall be so placed that under normal operating conditions it will operate under a positive suction head, except as specified in Section 370.133.
- 5) Electrical Equipment

Electrical systems and components (e.g., motors, lights, cables, conduits, switchboxes, control circuits, etc.) in raw sewage wet wells, or in enclosed or partially enclosed spaces where hazardous concentrations of flammable gases or vapors may be present, shall comply with the National Electrical Code requirements for Class I Group D, Division 1 locations. In addition, equipment located in the wet well shall be suitable for use under corrosive conditions. Each flexible cable shall be provided with water-tight seal and separate strain relief. A fused disconnect switch located above ground shall be provided for all pumping stations. When such equipment is exposed to weather, it shall meet the requirements of weatherproof equipment (National Electric Manufacturers Association (NEMA) 3R or 4).
- 6) Intake

Each pump shall have an individual intake. Wet well and intake design should be such as to avoid turbulence near the intake and to prevent vortex formation.
- 7) Dry Well Dewatering

Duplicate sump pumps equipped with dual check valves for each pump shall be provided in the dry well to remove leakage or drainage with discharge above the maximum high water level of the wet well. Water ejectors connected to a potable water supply will not be approved. All floor and walkway surfaces should have an adequate slope to a point of drainage. Pump seal leakage shall be piped or channeled directly to the sump. The sump pumps shall be sized to remove the maximum pump seal water discharge which would occur in the event of a pump seal failure.
- 8) Pumping Rates

The pumps and controls of main pumping stations, and especially pumping stations operated as part of treatment works, should be selected to operate at varying delivery rates. ~~The insofar as is practicable, such stations shall be designed to deliver as uniform flow as practicable in order to minimize hydraulic surges.~~ The peak design flow capacity of the station should

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shall be determined in accordance with Sections 370.300(c), 370.310(b), 370.520+4(c) and should be adequate to maintain a minimum velocity of 2 feet per second in the force main. Refer to Section 370.470(f).

- d) Controls
Control float tubes and bubbler lines should be so located as not to be unduly affected by turbulent flows entering the well or by the turbulent suction of the pumps. Provision shall be made to automatically alternate the pumps in use.
- e) Valves
Shutoff valves shall be placed on suction and discharge lines of each pump. A check valve shall be placed on each discharge line, between the shutoff valve and the pump. Check valves shall not be located on a vertical rise unless they are specifically designed for such usage.

f) Wet Wells

- 1) Divided Wells
Where continuity of pumping station operation is critical, consideration should be given to dividing the wet well into two sections, properly interconnected, to facilitate repairs and cleaning.
- 2) Size
The design fill time and minimum pump cycle time shall be taken into account in sizing the wet well. The maximum retention time in the wet well shall not exceed 30 minutes. The effective volume capacity of the wet well shall be based on design average flow and a filling time not to exceed 30 minutes unless the facility is designed to provide flow equalization. The pump manufacturer's duty cycle recommendations shall be used in selecting the minimum cycle time. When the anticipated initial flow tributary to the pumping station is less than the ultimate average design flow, provisions should be made so that the holding time indicated is not exceeded for initial flows. When the wet well is designed for flow equalization as part of a treatment plant, provisions should be made to prevent septicity.

3) Floor Slope

The wet well floor shall have a minimum slope of 1 to 1 to the hopper bottom. The horizontal area of the hopper bottom shall be no greater than necessary for proper installation and function of the inlet.

4) Air Displacement

Covered wet wells shall provide for air displacement open to the atmosphere, such as by an inverted "u" tube or similar means.

g) Ventilation

1) General

Adequate ventilation shall be provided for all pump stations. Where the dry well pump pit is below the ground surface, mechanical ventilation is required, and so arranged as to independently ventilate the dry well and the wet well, if

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screens or mechanical equipment requiring maintenance or inspection is located in the wet well, permanently installed ventilation is required. There shall be no interconnection between the wet well and dry well ventilation systems.

- 2) Air Inlets and Outlets
In dry wells pump pits over 15 feet deep, multiple inlets and outlets should be used, are desirable. Dampers should not be used on exhaust or fresh air ducts and fine screens or other obstructions in air ducts should be avoided to prevent clogging.
- 3) Electrical Controls
Switches for operation of ventilation equipment should be marked and located conveniently. All intermittently operated ventilation equipment shall be interconnected with the respective pit lighting system. Consideration should be given also to automatic controls where intermittent operation is used. The manual lighting ventilation switch shall override the automatic controls.
- 4) Fans, Heating and Dehumidification
The fan wheel shall be fabricated from non-sparking material. Automatic heating and dehumidification equipment shall be provided in all dry wells. The electrical equipment and components shall meet the requirements of subsection (c)(3) above.

- 5) Wet Wells
Wet well ventilation may be either continuous or intermittent. Ventilation, if continuous, should provide at least 12 complete air changes per hour; if intermittent, at least 30 complete air changes per hour. Air shall be forced into the wet well by mechanical means rather than exhausted from the wet well. Portable ventilation equipment shall be provided for use at submersible pump stations and at wet wells with no permanently installed ventilation equipment.

6) Dry Wells

Dry well ventilation may be either continuous or intermittent. Ventilation, if continuous, should provide at least 6 complete air changes per hour; if intermittent, at least 30 complete air changes per hour. A system of two-speed ventilation with an initial ventilation rate of 30 changes per hour for 10 minutes and an automatic switch-over to 6 changes per hour may be used to conserve heat.

h) Flow Measurement

Suitable devices for measuring sewage flow shall be provided at all pumping stations. If elapsed time meters are used, pressure-gauge taps shall be provided on suction and discharge lines of each pump. Indicating, totalizing and recording flow measurement shall be provided at pumping stations with a 1200-gpm or greater design peak flow, designed to serve 2500 population equivalents or more. Elapsed time meters used in conjunction with pumping rate tests may be used

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for pump stations with a design peak flow of up to 1200 gpm.

- i) Water Supply
There shall be no physical connection between any potable water supply and a sewage pumping station which under any conditions might cause contamination of the potable water supply. If a potable water supply is brought to the station, it should comply with conditions stipulated under Section 370.146(b)(3). In-line backflow preventors shall not be used.

(Source: Amended at 20 Ill. Reg. _____, effective _____)

Section 370.420 Suction-Lift Pump Stations

- a) Pump Priming and Lift Requirements

Suction lift pumps shall be of the self-priming or vacuum-priming type and shall meet the applicable requirements of Section 370.132. Suction lift pump stations using dynamic suction lifts exceeding the limits outlined in the following sections may be approved upon submission of factory certification of pump performance and detail calculations indicating satisfactory performance under the proposed operating conditions. Such detailed calculations must include static suction lift as measured from "lead pump off" elevation to center line of pump suction, friction and other hydraulic losses of the suction piping, vapor pressure of the liquid, altitude correction, required net positive suction head, and a safety factor of at least 6 feet.

- 1) Self-priming Pumps

Self-priming pumps shall be capable of rapid priming and repriming at the "lead pump on" elevation. Such self-priming and repriming shall be accomplished automatically under design operating conditions. Suction piping should not exceed the size of the pump suction and shall not exceed 25 feet in total length. Priming lift at the "lead pump on" elevation shall include a safety factor of at least 4 feet from the maximum allowable priming lift for the specific equipment at design operating conditions. The combined total of dynamic suction lift at the "pump off" elevation and required net positive suction head at design operating conditions shall not exceed 22 feet.

- 2) Vacuum-priming Pumps.

Vacuum-priming pump stations shall be equipped with dual vacuum pumps capable of automatically and completely removing air from the suction lift pump. The vacuum pumps shall be adequately protected from damage due to sewage. The combined total of dynamic suction lift at the "pump off" elevation and required net positive suction head at design operating conditions shall not exceed 22 feet.

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- b) Equipment, Wet Well Access and Valve Waiving Location

The pump equipment compartment shall be above grade or offset and shall be effectively isolated from the wet well to prevent the humid and corrosive sewer atmosphere from entering the equipment compartment. Wet well access shall not be through the equipment compartment. Wet well access may not be through the equipment compartment and shall be at least 24 inches in diameter. Gasketed replacements shall be provided to cover the opening to the wet well for pump units removed for servicing. Valves Waiving shall not be located in the wet well.

(Source: Amended at 20 Ill. Reg. _____, effective _____)

Section 370.430 Submersible Pump Stations - Special Considerations

Submersible pump stations shall meet the applicable requirements under Section 370.132, except as modified in this Section.

- a) Construction

Submersible pumps and motors shall be designed specifically for raw sewage use, including totally submerged operation during a portion of each pumping cycle, and shall meet the requirements of the National Electrical Code. An effective method to detect shaft seal failure or potential seal failure shall be provided ~~and the motor shaft be of squirrel-cage type design without brushes or other arc-producing mechanisms.~~

- b) Pump Removal

Submersible pumps shall be readily removable and replaceable without dewatering the wet well or disconnecting any piping in the wet well.

- c) Electrical

- 1) Power Supply and Control

Electrical supply, control and alarm circuits shall be designed to provide strain relief and to allow disconnection from outside the wet well. Terminals and connectors shall be protected from corrosion by location outside the wet well or through use of watertight seals. If located outside, weatherproof equipment shall be used.

- 2) Controls

The motor control center shall be located outside the wet well, readily accessible, and be protected by conduit seal or other appropriate measures meeting the requirements of the National Electrical Code, to prevent the atmosphere of the wet well from gaining access to the control center. The seal shall be so located that the motor may be removed and electrically disconnected without disturbing the seal.

- 3) Power Cord

Pump motor power cords shall be designed for flexibility and serviceability under conditions of extra hard usage and shall

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meet the requirements of the National Electric Code Mine-Safety and Health Administration for flexible cords in sewage pump stations trailing cables. Ground fault interruption protection shall be used to de-energize the circuit in the event of any failure in the electrical integrity of the cable. Power cord terminal fittings shall be corrosion-resistant and constructed in a manner to prevent the entry of moisture into the cable, shall be provided with strain relief appendances, and shall be designed to facilitate field connecting.

d) Valves

Valves required under Section 370.132(e) shall be located in a separate valve pit. Provision shall be made to remove accumulated water from the valve pit. Accumulated water in valve pits deeper than 4 feet shall be pumped to the wet well or gravity drained to the ground surface ~~exit~~. Valve pits 4 feet deep or less may be gravity drained to the wet well through a trapped and vented drain that meets the State Plumbing Code. Such pits shall have entrances that fully expose the pit to the atmosphere. Check valves that are integral to the pump need not be located in a separate valve pit provided that the valve can be removed from the wet well in accordance with subsection (b) above. Provision shall be made for the use of portable ventilation equipment during periods of maintenance.

(Source: Amended at 20 Ill. Reg. _____, effective _____)

Section 370.450 Emergency Operation

a) Objective

The objective of emergency operation is to prevent the discharge of raw or partially treated sewage to any waters and to protect public health by preventing back-up of sewage and subsequent discharge to basements, streets, and other public and private property.

b) Emergency Pumping Capability

Provision of emergency pumping capability is mandatory and may be accomplished by connection of the station to at least two independent utility substations, or by provision of portable or in-place internal combustion engine equipment which will generate electrical or mechanical energy, or by the provision of portable pumping equipment. Emergency standby systems shall have sufficient capacity to start up and maintain the total rated running capacity of the station. Regardless of the type of emergency standby system provided, a riser from the force main with rapid connection capabilities ~~quick-connect coupling~~ and appropriate valving shall be provided for all lift stations to hook up portable pumps.

c) Emergency High Level Overflows

For use during possible periods of extensive power outages, mandatory power reductions, or uncontrollable emergency conditions,

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consideration should be given to providing a controlled, high-level wet well overflow to supplement alarm systems and emergency power generation in order to prevent backup of sewage into basements, or other discharges which may cause severe adverse impacts on public interests, including public health and property damage. Where a high level overflow is utilized, consideration shall also be given to the installation of storage/detention tanks, or basins, which shall be made to drain to the station wet well. Where such overflows affect public water supplies or waters used for culinary or food processing purposes, a storage detention basin, or tank, shall be provided having 2-hour detention capacity at the anticipated overflow rate.

d) Equipment Requirements

1) General

The following general requirements shall apply to all internal combustion engines used to drive auxiliary pumps, service pumps through special drives, or electrical generating equipment:

A) Engine Protection

The engine must be protected from operating conditions that would result in damage to equipment. Unless continuous manual supervision is planned, protective equipment shall be capable of shutting down the engine and activating an alarm on site and as provided in Section 370.135. Protective equipment shall monitor for conditions of low oil pressure and overheating, except that oil pressure monitoring will not be required for engines with splash lubrication.

B) Size

The engine shall have adequate rated power to start and continuously operate all connected loads.

C) Fuel Type

Reliability and ease of starting, especially during cold weather conditions, should be considered in the selection of the type of fuel.

D) Engine Ventilation

The engine shall be located above grade with adequate ventilation of fuel vapors and exhaust gases.

E) Routine Start-up

All emergency equipment shall be provided with instructions indicating the need for regular starting and running of such units at full loads.

F) Protection of Equipment

Emergency equipment shall be protected from damage at the restoration of regular electrical power.

2) Engine - Drive Pumping Equipment

Where ~~there~~ permanently-installed or portable engine-driven pumps are used, the following requirements in addition to general requirements shall apply:

A) Pumping Capacity

Engine-drive pumps shall meet the design pumping

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requirements unless storage capacity is available for flows in excess of pump capacity. Pumps shall be designed for anticipated operating conditions, including suction lift if applicable.

B)

Operation
The engine and pump shall be equipped to provide automatic start-up and operation of pumping equipment unless manual start-up and operation is justified. Provisions shall also be made for manual start-up. Where manual start-up and operation is justified, storage capacity and alarm system must meet the requirements of subsection (d)(2)(C).

C)

Portable Pumping Equipment
Where part or all of the engine-driven pumping equipment is portable, sufficient storage capacity shall be provided to allow time for detection of pump station failure and transportation and hookup of the portable equipment.

3)

Engine-Driven Generating Equipment
Where permanently-installed or portable engine-driven generating equipment is used, the following requirements shall apply in addition to general requirements of subsection (d)(1):

- A) Generating Capacity
- i) Generating unit size shall be adequate to provide power for pump motor starting current and for lighting, ventilation, and other auxiliary equipment necessary for safety and proper operation of the lift station.
 - ii) The operation of only one pump during periods of auxiliary power supply must be justified. Such justification may be made on the basis of the design peak maximum-anticipated flows relative to single-pump capacity, anticipated length of power outage, and storage capacity.
 - iii) Special sequencing controls shall be provided to start pump motors unless the generating equipment has capacity to start all pumps simultaneously with auxiliary equipment operating.

B)

Operation
Provisions shall be made for automatic and manual start-up and load transfer unless only manual start-up and operation is justified. The generator must be protected from operating conditions that would result in damage to equipment. Provisions should be considered to allow the engine to start and stabilize at operating speed before assuming the load. Where manual start-up and transfer is justified, storage capacity and alarm system must meet the requirements of subsection (d)(3)(C).

C)

Portable Generating Equipment
Where portable generating equipment or manual transfer is provided, sufficient storage capacity shall be provided to

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allow time for detection of pump station failure and transportation and connection of generating equipment. The use of special electrical connections and double throw switches are recommended for connecting portable generating equipment.

4) Independent Utility Substations

Where independent substations are used for emergency power, each separate substation and its associated transmission lines must be capable of starting and operating the pump station at its rated capacity.

(Source: Amended at 20 Ill. Reg. _____, effective _____)

Section 370.470 Force Mains

a) Velocity and Diameter

At design pumping rates, a cleansing velocity of at least 2 feet per second should be maintained. Lower velocities may be permitted for very small installations. The minimum force main diameter for raw sewage shall be 4 inches except for grinder pump lift stations as allowed under Section 370.410(c)(3).

b) Air and Vacuum Relief Valve
An air relief valve shall be placed at high points in the force main to prevent air locking. Vacuum relief valves may be necessary to relieve negative pressure on force mains. Force main configuration and head conditions shall be evaluated as to the need for and placement of vacuum relief valves.

c) Termination

Force mains should enter the gravity sewer system at a point not more than 2 feet above the flow line of the receiving manhole.

d) Design Pressure

The force mains and fittings, including reaction blocking, shall be designed to withstand normal pressure and pressure surges (water hammer). The need for surge protection chambers shall be evaluated.

e) Special Construction

Force main construction near streams or water works structures and at water main crossings shall meet applicable provisions of Sections 370.125 and 370.126.

f) Design Friction Losses

1) Friction losses through force mains shall be based on the Hazen and Williams formula or other acceptable methods. When the Hazen and Williams formula is used, the value for "C" shall be 100 for unlined iron or steel pipe for design. For other smooth pipe materials such as polyvinyl chloride, polyethylene or lined ductile iron, a higher "C" value values not to exceed 120 may be allowed for design.

2) When initially installed, force mains will have a significantly

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higher high "C" factor. The effect of the higher "C" factor should be considered only in calculating maximum power requirements and duty cycle time to prevent damage to of the motor.

g) Identification

Where force mains are constructed of material which might cause the force main to be confused with potable water mains, the force main shall be appropriately identified.

h) Flexible Pipe Force Main Embedment

Embedment bedding (haunching and initial backfill as depicted in ASTM D2321-83a, Figure 1) shall be in accordance with Section 20-2.21 B(6), Case V of Standard Specifications for Water and Sewer Main Construction in Illinois, 4th ed. (May, 1986)(no later editions or amendments).

i) Leakage Testing

Leakage testing shall be specified, including testing methods and leakage limits.

(Source: Amended at 20 Ill. Reg. _____, effective _____)

SUBPART E: SEWAGE TREATMENT WORKS

Section 370.500 Plant Location

a) General

The following items shall be considered when selecting a plant site:

- 1) Proximity to residential areas.
- 2) Direction of prevailing winds.
- 3) Necessary routing to provide accessibility by all weather roads.
- 4) Area available for expansion.
- 5) Local zoning requirements.
- 6) Local soil characteristics, geology, and topography available to minimize pumping.
- 7) Access to receiving stream.
- 8) Compatibility of treatment process with the present and planned future land use, including noise, potential odors, air quality, and anticipated sludge processing and disposal techniques.
- 9) The requirements of the Illinois Groundwater Protection Act [415 ILCS 551].

b) Critical Sites

Where a site must be used which is critical with respect to the items in subsection (a), appropriate measures shall be taken to minimize adverse impacts.

c) Flood Protection

The treatment works structures, electrical and mechanical equipment shall be protected from physical damage by the maximum 100 year flood. Treatment works shall remain fully operational during the 25 year

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Flood. This requirement applies to new construction and to existing facilities undergoing major modification. Flood plain regulations of State and Federal agencies shall be considered.

d) Plant Accessibility

All plant facilities shall be accessible by an all weather road.

(Source: Amended at 20 Ill. Reg. _____, effective _____)

Section 370.510 Quality of Effluent

The required degree of wastewater treatment shall be established by reference to applicable effluent and water quality standards contained in 35 Ill. Adm. Code Subtitle C, Chapter I ~~the--PGB--regulations~~ unless more stringent limitations have been established.

(Source: Amended at 20 Ill. Reg. _____, effective _____)

Section 370.520 Design

a) Type of Treatment

- 1) As a minimum, the following items shall be considered in the selection of the type of treatment:

- A) Present and future effluent requirements.
- B) Location and local topography of the plant site.
- C) The effects of industrial wastes likely to be encountered.
- D) Ultimate disposal of sludge.
- E) System capital costs.
- F) System operating and maintenance costs and basic energy requirements.
- G) Existing unit process performance and capacity.
- H) Process complexity governing operating personnel requirements.
- I) Environmental impact on present and future adjacent land use.

- 2) The plant design shall provide the necessary flexibility to perform satisfactorily within the expected range of waste characteristics and volumes.

b) Required Engineering Data for New Process Evaluation

- 1) The policy of the Agency is to encourage rather than obstruct the development of any methods or equipment for treatment of wastewaters. The lack of inclusion in these standards of some types of wastewater treatment processes or equipment should not be construed as precluding their use. The Agency may approve other types of wastewater treatment processes and equipment under the condition that the operational reliability and effectiveness of the process or device shall have been demonstrated with a

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suitably-sized prototype unit operating at its design load conditions, to the extent required.

- 2) To determine that such new processes and equipment have a reasonable and substantial chance of success, the Agency will require the following:

A) Monitoring observations, including test results and engineering evaluations, demonstrating the efficiency of such processes.

B) Detailed description of the test methods.

C) Testing, including appropriately-composited samples, under various ranges of strength and flow rates (including diurnal variations) and waste temperatures over a sufficient length of time to demonstrate performance under climatic and other conditions which may be encountered in the area of the proposed installations.

D) Other appropriate information.

- 3) The Agency will require that appropriate testing be conducted and evaluations be made under the supervision of a competent process engineer other than those employed by the manufacturer or developer.

c) Design Loads

1) Hydraulic Design

A) New Systems

Plans for sewage treatment plants to serve new sewer systems for municipalities or sewer districts shall be based upon a design an average daily flow of at least 100 gallons per capita, to which must be added industrial waste volumes.

The design also shall include appropriate allowance for flow conditions determined under Section 370.122.

B) Existing Systems

Where there is an existing sewer system, the volume and rates of the existing sewage flows shall be determined. The determination shall include both dry weather and wet weather flows. At least one year's flow data should be used to determine the design following flows that are defined in Section 370.220.

†† Annual-average-daily-dry-weather-flow---as-determined by-average-flows-over-one-year-exclusive-of-inflow

††† Average-minimum-daily-flow---as-determined-by-averaging daily-flows-during-dry-weather-when-infiltration/inflow are-at-a-minimum

†††† Wet-weather-peak-flows---as-determined-by--averaging daily-flows-when-infiltration/inflow-are-at-a-maximum

††††† Peak-hourly-flows

†††††††† Normal-diurnal-variations

C) Treatment Plant Design Capacity

The treatment plant capacity shall be rated on the design annual average daily-dry-weather flow, selected after any

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sewer system rehabilitation, plus appropriate future growth.

The design of treatment units that are not subject to peak flow requirements shall be based on the design annual average daily-dry-weather flow. For plants subject to high wet weather flows or overflow detention pumphack flows, the design maximum flow that the plant is to treat on a sustained basis must be specified.

2) Organic Design

A) New Systems Minimum Design

i) Domestic waste treatment design shall be on the basis of at least 0.17 pounds of biochemical oxygen demand (BOD5) per capita per day and 0.20 pounds of suspended solids per capita per day.

ii) When garbage grinders are used in areas tributary to a domestic treatment plant, the design basis should be increased to 0.22 pounds of BOD5 and 0.25 pounds of suspended solids per capita per day.

iii) Domestic waste treatment plants that will receive industrial wastewater flows shall be designed to include these industrial waste loads.

B) Existing Systems

When an existing treatment works is to be upgraded or expanded, organic design shall be based upon the actual strength of the wastewater as determined from measurements taken in accordance with subsection (c)(1)(B), with an appropriate increment for growth as determined under the provisions of subsection (c)(2)(A).

3) Shock Effects

Domestic waste treatment designs shall consider and take into account the shock effect of high concentrations and diurnal peaks for short periods on the treatment process, particularly for small waste treatment plants serving institutions, restaurants, schools, etc.

4) Design by Analogy

Data from similar existing systems may be utilized in the case of new systems; however, thorough investigation and adequate documentation shall be made to establish the reliability and applicability of such data.

d) Conduits

1) All piping and channels should be designed to carry the design peak maximum-expected flows. The incoming sewer should be designed for unrestricted flow. Bottom corners of the channels must be filleted. Conduits shall be designed to avoid creation of pockets and corners where solids can accumulate.

2) Suitable gates should be placed in channels to seal off unused sections which might accumulate solids. The use of shear gates is permitted where they can be used in place of gate valves or sluice gates. Non-corrodible materials shall be used for these

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control gates.

- e) Arrangement of Units
Component parts of the plant should be arranged for greatest operating convenience, flexibility, economy, continuity of maximum effluent quality, and so as to facilitate installation of future units.

f) Flow Division Control
Flow division control facilities shall be provided as necessary to insure organic and hydraulic loading control to plant process units and shall be designed for easy operator access, change, observation, and maintenance. The use of head boxes equipped with sharp-crested weirs or similar devices are recommended. The use of valves for flow splitting is not acceptable. Appropriate flow measurement shall be incorporated in the flow division control design.

g) Load Flow Equalization and Attenuation

1) Equalization of hydraulic and organic loads to downstream treatment units is recommended where the peak hourly load exceeds 300% of the design average load. Particular attention shall be given to equalization of pumped flows to limit hydraulic surges on downstream units. ~~Facilities for the equalization of flows and organic shock load shall be considered at all plants which are expected to receive loadings in excess of 200 percent of design.~~

2) Plants proposed to receive sewage wastes from only institutions (motels, schools, hospitals, nursing homes, etc.) or industries which discharge substantially the total flow in 12 hours or less, shall be designed to include flow equalization. Where flow equalization facilities are provided, the design shall include adequate aeration and mixing equipment to prevent septicity.

(Source: Amended at 20 Ill. Reg. _____, effective _____)

Section 370.530 Plant Details

a) Installation of Mechanical Equipment

The specifications shall ~~not~~ be so written that the installation and initial operation of major items of mechanical equipment will be inspected and approved supervised by a representative of the manufacturer.

b) Bypasses

Properly located and arranged bypass structures and piping shall be provided so that each unit of the plant can be removed from service independently. The bypass design shall facilitate plant operation during unit maintenance and emergency repair so as to minimize deterioration of effluent quality and insure rapid process recovery upon return to normal operational mode.

c) Unit Bypass and Wastewater Pumpage During Construction

Final plans and specifications for upgrading or expanding existing

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treatment plants shall include construction scheduling of any unit bypassing, and appropriate temporary wastewater pumpage acceptable to the Agency to minimize temporary water quality degradation. Refer to Section 370.260 #50.

d) Drains and Buoyancy Protection

1) Means shall be provided to dewater each unit. Pipes subject to clogging shall be provided with means for mechanical cleaning or flushing.

2) Due consideration should be given to the possible need for hydrostatic pressure relief devices to prevent flotation of structures.

e) Construction Materials

Due consideration should be given to the selection of materials which are to be used in sewage treatment works because of the possible presence of hydrogen sulfide and other corrosive gases, greases, oils, and similar constituents frequently present in sewage. This is particularly important in the selection of metals and paints. Dissimilar metals should be avoided to minimize galvanic action.

f) Painting

The use of paints containing mercury should be avoided. In order to facilitate identification of piping, particularly in the large plants, it is suggested that the different lines be color coded. The following color scheme is recommended for purposes of standardization:

- 1) Sludge line - brown
- 2) Gas line - orange
- 3) Potable water line - blue
- 4) Non-potable water line - blue with 3 inch yellow band spaced 30 inches apart
- 5) Chlorine line - yellow
- 6) Sewage line - gray
- 7) Compressed air line - green
- 8) Water lines for heating digesters or buildings - blue with a 6-inch red band spaced 30 inches apart
- 9) The contents shall be stenciled on the piping, labeling the contents in a contrasting color.

g) Operating Equipment

A complete outfit of tools, accessories (such as portable pump and ventilation blowers, etc.), and spare parts necessary for the plant operators use shall be provided. Readily accessible storage space and work bench facilities shall be provided. Consideration shall be given to provision of a garage storage area for large equipment storage, maintenance, and repair.

h) Erosion Control During Construction

Effective site erosion control shall be provided during construction. i) Grading and Landscaping
Upon completion of the plant, the ground should be graded and seeded. Concrete or gravel walkways should be provided for access to all units. Where possible, steep slopes should be avoided to prevent

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erosion. Surface water shall not be permitted to drain into any unit. Particular care shall be taken to protect trickling filter beds, sludge beds, and intermittent sand filters from storm water runoff. Landscaping shall be provided when a plant must be located near residential areas.

(Source: Amended at 20 Ill. Reg. _____, effective _____)

Section 370.550 Essential Facilities

a) Emergency Power or Pumping Facilities

1) All plants shall be provided with an alternate source of electric power or pumping capability to allow continuity of operation during power failures. Methods of providing power or pumping capability include:

A) The connection to at least 2 independent public utility sources such as substations. A power line from each substation into the treatment plant with capability for switchover to the second power source by plant operating personnel will be required.

B) Portable or in place internal combustion engine equipment which will generate electrical or mechanical energy. Refer to Section 370.136(d).

C) Portable pumping equipment when only emergency pumping is required. Refer to Section 370.136(d).

2) Standby Generating Capacity Requirements

Standby generating capacity normally is not required for aeration equipment used in the activated sludge process. In cases where a history of long term (4 hours or more) power outages have occurred, auxiliary power for minimum aeration of the activated sludge will be required.

3) Degree of Treatment Required

No reduction in degree of treatment due to power outages will be allowed when the wastewater is to be treated by installations using trickling filters, waste stabilization ponds and/or other low energy usage treatment devices.

4) Continuity of Disinfection

The design shall provide for continuous disinfection during all power outages, if required due to critical outfall locations and receiving waters.

b) Water Supply

1) General

An adequate supply of potable water under pressure should be provided for use in the laboratory and general cleanliness around the plant. No piping or other connections shall exist in any part of the treatment works which, under any conditions, might cause the contamination of a potable water supply. ~~the--shement~~

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~~quality--should-be-checked-for-suitability-for-its-intended-uses such-as-heat-exchangers-chlorinators,-etc-~~

2) Direct Connections

A) Potable water from a municipal or separate supply may be used directly at points above grade for the following hot and cold supplies:

- i) Lavatory sink
- ii) Water closet
- iii) Laboratory sink (with vacuum breaker)
- iv) Shower
- v) Drinking fountain
- vi) Eye wash fountain
- vii) Safety shower
- viii) Fire Protection sprinklers

B) Hot water for any of the above units shall not be taken directly from a boiler used for supplying hot water to a sludge heat exchanger or digester heating unit.

3) Indirect Connections

A) Where a potable water supply is to be used for any purpose in a plant other than those listed in subsection (b)(2)(A), a break tank, pressure pump and pressure tank shall be provided. Water shall be discharged to the break tank through an air-gap at least 6 inches above the maximum flood line or the spill line of the tank, whichever is higher. A sketch of an acceptable break tank is contained in Appendix G, Figure No. 4. In-line backflow preventers are not acceptable.

B) A sign shall be permanently posted at every hose bib, faucet, or sill cock located on the water system beyond the break tank to indicate that the water is not safe for drinking.

4) Separate Potable Water Supply

Where it is not possible to provide potable water from a public water supply, a separate well may be provided. Location and construction of the well should comply with requirements of the governing State and local regulations. Requirements governing the use of the supply are those contained in subsections (b)(2) and (b)(3).

5) Separate Non-Potable Water Supply

Where a separate non-potable water supply is to be provided, a break tank will not be necessary, but all sill cocks and hose bibs shall be posted with a permanent sign indicating the water is not safe for drinking.

c) Sanitary Facilities

Toilet, shower, and lavatory should be provided in sufficient numbers and at convenient locations to serve the expected plant personnel.

d) Floor Slope Surface

Floor surfaces shall be sloped adequately to a point of drainage.

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e) Stairways

Stairways shall be installed wherever possible in lieu of ladders for access to those units requiring inspection and maintenance, including but not limited to trickling filters, digesters, aeration tanks, clarifiers and tertiary filters. Spiral or winding stairs are permitted only for secondary access where dual means of egress are provided. Stairways shall have slopes between 30 and 35 degrees from the horizontal to facilitate carrying samples, tools, etc. Each tread and riser shall be of uniform dimension in each flight. Minimum tread run shall not be less than 8 inches. The sum of the tread run and riser shall not be less than 17 nor more than 18 inches. A flight of stairs shall consist of not more than a 12 foot continuous rise without a platform.

f) Flow Measurement

1) Flow measurement facilities shall be provided so as to measure the following flows: total volume of effluent discharged--at--all plants--indicating--totalizing--and--recording--flow--measurement devices--shall--be--provided--for--all--mechanical--plants--flow measurement--facilities--for--lagoon--systems--shall--not--be--less--than pump--calibration--time--books--or--calibrated--weirs--flow measurement--must--also--be--provided--for--excess--flow--treatment facility--discharges--All--flow--measurement--equipment--must--be sized--to--function--effectively--in--the--full--range--of--flows--expected and--shall--be--protected--against--freezing.

A) Plant effluent flow.

B) Plant influent flow, if significantly different from plant effluent flow, such as for lagoons and plants with excess flow storage or flow equalization.

C) Excess flow treatment facility discharges.

D) Other flows required to be monitored under the provisions of an NPDES discharge permit.

E) Flows required for plant operational control, including but not limited to return activated sludge flow, waste activated sludge flow, recirculation flow and recycle flows.

2) Indicating, totalizing and recording flow measurement devices shall be provided for all mechanical plants for all flows except those specified in subsection (f)(1)(E) above. Flow measurement equipment for lagoon systems shall consist of, at a minimum, elapsed time meters used in conjunction with pumping rate test or calibrated weirs. All flow measurement equipment must be sized to function effectively in the full range of flows expected and shall be protected against freezing.

3) Flow measurement equipment including entrance and discharge conduit configuration and critical control elevations shall be designed to ensure that the required hydraulic conditions necessary for accurate measurement are provided. Conditions that must be avoided include turbulence, eddy currents, air entrainment, etc., that upset the normal hydraulic conditions

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that are necessary.

g) Sampling Equipment
Effluent composite sampling equipment shall be provided at all mechanical plants and at other facilities where necessary to meet discharge permit monitoring requirements.

(Source: Amended at 20 Ill. Reg. _____, effective _____)

Section 370.560 Safety

a) Adequate provision shall be made to effectively protect the operator and visitors from hazards. The following shall be provided to fulfill the particular needs of each plant:

1) Enclosure of the plant site with a fence designed to discourage the entrance of unauthorized persons and animals.

2) Installation of hand rails and guards around all tanks, pits, stairwells, and other hazardous structures.

3) Provision of first aid equipment at marked locations.

4) Posting of "No Smoking" signs in hazardous areas.

5) Protective clothing and equipment such as air packs, goggles, gloves, hard hats, safety harnesses and hearing protection, etc.

6) Provision of portable blower and sufficient hose.

7) Portable lighting equipment that complies with the National

Electrical Code, approved by the U.S. Bureau of Mines.

8) Appropriately placed warning signs for slippery areas, non-potable water fixtures, low head clearance areas, open service manhole, hazardous chemical storage areas, flammable fuel storage areas, etc.

9) Smoke and fire detectors, fire extinguishers, and appropriate waste receptacles.

b) Hazardous Chemical Handling

1) Containment Materials

The materials utilized for storage, piping, valves, pumping, metering, splash guards, etc., shall be specially selected considering the physical and chemical characteristics of each hazardous or corrosive chemical.

2) Secondary Containment and Storage

A) Wet and Dry Chemicals

Chemical storage areas shall be enclosed in dikes or curbs which will contain the stored volume until it can be safely transferred to alternate storage or released to the wastewater at controlled rates which will not damage facilities, inhibit the treatment processes, or contribute to stream pollution. Liquid polymer should be similarly contained to reduce areas with slippery floors, especially to protect travelways. Non-slip floor surfaces are desirable in polymer handling areas.

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- B) Liquified Gas Chemicals
Chlorine and sulfur dioxide cylinder and container storage provisions shall meet the requirements of Sections 370.1020 and 370.1040 Section 370-196. ~~Ammonia~~ ~~Ammonia~~ gas cylinder isolation shall be provided. Gas Such-gas cylinder storage facilities shall be equipped with appropriate alarm system and emergency repair equipment and control system.
- 3) Eye Wash Fountains and Safety Showers
A) Eye wash fountains and safety showers utilizing potable water shall be provided in the laboratory and on each floor level or work location involving hazardous or corrosive chemical storage, mixing (or slaking), pumping, metering, or transportation unloading. These facilities are to be as close as practical to possible chemical exposure sites and are to be fully useful during all weather conditions. The eye wash fountains shall be supplied with water of moderate temperature (50° - 90° Fahrenheit (F)), separate from the hot water supply, suitable to provide 15 minutes to 30 minutes of continuous irrigation of the eyes.
- B) The emergency showers shall be capable of discharging 30 to 50 gallons per minute (gpm) of water at moderate (50° - 90° F) temperature at pressures of 20 to 50 pounds per square inch (psi). The eye wash fountains and showers shall be no more than 25 feet from points of caustic exposure.
- 4) Splash Guards
All pumps or feeders for hazardous or corrosive chemicals shall have guards which will effectively prevent spray of chemicals into space occupied by personnel. The splash guards are in addition to guards to prevent injury from moving or rotating machinery parts.
- 5) Piping, Labeling, Coupling Guards, Location
A) All piping containing or transporting corrosive or hazardous chemicals shall be identified with labels every ten feet and with at least two labels in each room, closet, or pipe chase. Color coding may also be used, but is not an adequate substitute for labeling.
- B) All connections (flanged or other type), except adjacent to storage or feeder areas, shall have guards which will direct any leakage away from space occupied by personnel. Pipes containing hazardous or corrosive chemicals should not be located above shoulder level except where continuous drip collection trays and coupling guards will eliminate chemical spray or dripping onto personnel.
- 6) Protective Clothing and Equipment
The following items of protective clothing or equipment shall be available and utilized for all operations or procedures where their use will minimize injury hazard to personnel:

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- A) Air pack breathing apparatus for protection against chlorine and other toxic gases.
- B) Chemical workers' goggles or other suitable goggles. (Safety glasses are insufficient.)
- C) Face masks or shields for use over goggles.
- D) Dust masks to protect the lungs in dry chemical areas.
- E) Rubber gloves.
- F) Rubber aprons with leg straps.
- G) Rubber boots (leather and wool clothing should be avoided near caustics).
- H) Safety harness and line.
- 7) Warning Systems and Signs
A) Facilities shall be provided for automatic shutdown of pumps and sounding of alarms when failure occurs in a pressurized chemical discharge line.
- B) Warning signs requiring use of goggles and dust masks shall be located near chemical unloading stations, pumps, and other points of frequent hazard.
- 8) Dust Collection
Dust collection equipment shall be provided where dry chemicals are stored or used to protect personnel from dusts injurious to the lungs or skin and to prevent polymer dust from settling on walkways which become slick when wet.
- 9) Container Identification
The identification and hazard warning data included on shipping containers, when received, shall appear on all containers (regardless of size or type) used to store, carry, or use a hazardous substance. Sewage and sludge sample containers should be adequately labeled. Below is a suitable label to identify a sewage sample as a hazardous substance:
- Raw Sewage
- Sample Point No. _____
Contains Harmful Bacteria.
- May contain hazardous or toxic material.
- Do not drink or swallow.
- Avoid contact with openings or breaks in the skin.
- (Source: Amended at 20 Ill. Reg. _____, effective _____)

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- a) All treatment works shall include a laboratory for making the necessary analytical determinations and operating control tests, except for those plants utilizing only processes not requiring laboratory testing for plant control and satisfactory off-site laboratory provisions are made to meet the permit monitoring requirements. For plants where a fully equipped laboratory is not required, the requirements for utilities and equipment such as fume hoods may be reduced.
- b) The laboratory shall have sufficient size, bench space, equipment and supplies to perform all self-monitoring analytical work required by discharge permits, and to perform the process control tests necessary for good management of each treatment process included in the design.
- c) The facilities and supplies necessary to perform analytical work to support industrial waste control programs will normally be included in the same laboratory. The laboratory size and arrangement must be sufficiently flexible and adaptable to accomplish these assignments. The layout should consider future needs for expansion in the event that more analytical work is needed.
- d) Location and Space
 - 1) The laboratory should be located on ground level, easily accessible to all sampling points, with environmental control as an important consideration. It shall be located in a separate room or building away from vibrating machinery or equipment which might have adverse effects on the performance of laboratory instruments or the analyst, or shall be designed to prevent structural transmission of machine vibration. The floor and wall construction shall be designed to keep out machine noise (blowers, pumps, etc.). The following minimum conditions shall be met:
 - A) Blowers, pumps, etc., must be located on a separate floor pad.
 - B) Common walls between machinery rooms must be double-walled with sound insulation between the walls. Connecting doors or windows to machinery rooms are not acceptable.
 - C) Common attic space shall be blocked off and effective sound proof material provided in the ceiling.
 - 2) A minimum of 400 square feet of floor space should be allocated for the laboratory. Less space may be allowed if the sampling and analysis program, approved by the Agency, does not require a full-time laboratory chemist. If more than two persons normally will be working in the laboratory at any given time, 100 square feet of additional space should be provided for each additional person. Bench-top working surface should occupy at least 35 percent of the total floor space.
 - 3) Minimum ceiling height should be 8 feet 6 inches. If possible, this height should be increased to provide for the installation of wall-mounted water stills, distillation racks, and other equipment with extended height requirements.

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- 4) Additional floor and bench space should be provided to facilitate performance of analysis of industrial wastes, as required by the discharge permit and the utilities industrial waste pretreatment program. The above minimum space does not provide office or administration space.
- e) Materials
 - 1) Ceilings

Acoustical tile should be used for ceilings except in high humidity areas where they should be constructed of cement plaster. Materials containing asbestos shall not be used.
 - 2) Walls

For ease of maintenance and a pleasant working environment, light-colored ceramic tile should be used from floor to ceiling for all interior walls.
 - 3) Floors

Floor surface materials shall be either vinyl asbestos or rubber, fire resistant, and highly resistant to acids, alkalis, solvents, and salts.
 - 4) Doors
 - A) Two exit doors should be located to permit a straight egress from the laboratory, preferably at least one to outside the building. Panic hardware should be used. They should have large glass windows for easy visibility of approaching or departing personnel.
 - B) Automatic door closers should be installed; swinging doors should not be used.
 - C) Flush hardware should be provided on doors if cart traffic is anticipated. Kick plates are also recommended.
- f) Cabinets and Bench Tops
 - 1) Cabinets
 - A) Wall-hung cabinets are useful for dust-free storage of instruments and glassware.
 - B) Units with sliding glass doors are preferable. They should be hung so the top shelf is easily accessible to the analyst. Thirty inches from the bench top is recommended.
 - C) One or more cupboard-style base cabinets should be provided for storing large items; however, drawer units are preferred for the remaining cabinets. Drawers should slide out so that entire contents are easily visible. They should be provided with rubber bumpers and with stops which prevent accidental removal. Drawers should be supported on ball bearings or nylon rollers which pull easily in adjustable steel channels. All metal drawer fronts should be double-wall construction. All cabinet shelving should be acid resistant and adjustable from inside the cabinet.
 - 2) Bench Tops

Generally, bench-top height should be 36 inches. However, areas to be used exclusively for sit-down type operations should be 30

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inches high and include knee-hole space. One-inch overhangs and drip grooves should be provided to keep liquid spills from running along the face of the cabinet. Tops should be furnished in large sections, 1 1/4 inches thick. They should be field joined into a continuous surface with acid, alkali, and solvent-resistant cements which are at least as strong as the material of which the top is made.

3) Utility Accessories

Water, gas, air, and vacuum service fixtures; traps, strainers, overflows, plugs and tailpieces; and all electrical service fixtures shall be supplied with the laboratory furniture.

g) Hoods

Fume hoods to promote safety and canopy hoods over heat-releasing equipment shall be installed.

1) Fume Hoods

A) Location

i) Fume hoods should be located where air disturbance at the face of the hood is minimal. Air disturbance may be created by persons walking past the hood; by heating, ventilating or air-conditioning systems; by drafts from opening or closing a door; etc.

ii) Safety factors should be considered in locating a hood. If a hood is situated near a doorway, a secondary means of egress must be provided. Bench surfaces should be available next to the hood so that chemicals need not be carried long distances.

B) Design and Materials

i) The selection of fume hoods, their design and materials of construction, must be made by considering the variety of analytical work to be performed and the characteristics of the fumes, chemicals, gases, or vapors that will or may be released. Special design and construction is necessary if perchloric acid use is anticipated. Consideration should be given for providing more than one fume hood to minimize potential hazardous conditions throughout the laboratory.

ii) Fume hoods are not appropriate for operation of heat-releasing equipment that does not contribute to hazards, unless they are provided in addition to those needed to perform hazardous tasks.

C) Fixtures

i) One cup sink should be provided inside each fume hood.
ii) All switches, electrical outlets, and utility and baffle adjustment handles should be located outside the hood. Light fixtures should be explosion-proof.

D) Exhaust

Continuous duty ~~Twenty-four~~ hour exhaust capability should be provided. Exhaust fans should be

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explosion-proof. Exhaust velocities should be checked when fume hoods are installed.

E) Alarms

A buzzer for indicating exhaust fan failure and a static pressure gauge should be placed in the exhaust duct. A high temperature sensing device located inside the hood should be connected to the buzzer.

2) Canopy Hoods

Canopy hoods should be installed over the bench-top areas where hot plate, steam bath, or other heating equipment or heat-releasing instruments are used. The canopy should be constructed of steel, plastic, or equivalent material, and finished with enamel to blend with other laboratory furnishings.

h) Sinks

1) The laboratory should have a minimum of 3 sinks (not including cup sinks). At least 2 of them should be double-well with drainboards. Additional sinks should be provided in separate work areas as needed, and identified for the use intended.

2) Waste openings should be located toward the back so that a standing overflow will not interfere. All water fixtures on which hoses may be used should be provided with reduced zone pressure backflow preventers to prevent contamination of water lines.

3) The sinks should be constructed of material highly resistant to acids, alkalis, solvents, and salts, and should be abrasion and heat resistant, non-absorbent, light in weight and have all appropriate characteristics for laboratory applications. Traps should be made of glass, plastic, or lead and easily accessible for cleaning.

i) Ventilation and Lighting

1) Laboratories shall be separately air conditioned and dehumidification shall be provided where laboratory control tests procedures will be affected by high humidity conditions. Separate exhaust ventilation outlet locations (fume and heat hoods, room air, etc.) shall be provided remote from ventilation intakes.

2) Adequate lighting, free from shadows, shall be provided to permit reading of laboratory instrument dials, glassware calibrations, etc.

j) Gas and Vacuum

1) Natural or bottled gas should be supplied to the laboratory. Digester gas should not be used.

2) An adequately-sized line source of vacuum should be provided with outlets available throughout the laboratory.

k) Balance and Table

An analytical balance of the automatic, digital readout, single pan, 0.1 milligram sensitivity type shall be provided. A heavy special-design balance table which will minimize vibration of the

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balance shall be provided. It shall be located as far as practical from windows, doors, or other sources of drafts or air movements, so as to minimize undesirable impacts from these sources upon the balance.

1) Equipment, Supplies and Reagents

The laboratory shall be provided with all of the equipment, supplies, and reagents that are needed to carry out all of the facility's analytical testing requirements. Discharge permit, process control, and industrial waste monitoring requirements must be considered when specifying equipment needs. References such as Standard Methods and the USEPA 955r--BPA Analytical Procedures Manual should be consulted prior to specifying equipment items.

m) Power Supply Regulation

1) To eliminate voltage fluctuation, electrical lines supplying the laboratory should be controlled with a constant voltage, harmonic neutralized type of transformer. This transformer should contain less than 3% total root mean square (rms) harmonic content in the output, should regulate to 1% for an input range of 15% of nominal voltage, with an output of 118 volts. For higher voltage requirements, the 240-volt lines should be similarly regulated.

2) Electrical devices in the laboratory not requiring a regulated supply (i.e., ordinary resistance heating devices) that are non-portable may be wired to an unregulated supply.

n) Laboratory Grade Water Source Water-Still

A laboratory grade water source, An-att-glass--water---still, with at least one gallon per hour capacity, shall be installed complete with all utility connections. The type of treatment used to produce laboratory grade water shall be based on the quality of water required for the tests to be performed at the plant. Laboratory water treatment devices shall be constructed of materials that are compatible with the water to be treated and produced.

o) Laboratory Safety Equipment

Laboratory safety equipment shall be provided in accordance with the requirements of Section 370.560(a)(3), (a)(9), (b)(3) and (b)(6).

(Source: Amended at 20 Ill. Reg. _____, effective _____)

SUBPART F: PRELIMINARY TREATMENT

Section 370.600 General Considerations Screening-Devices

a) Safety

Safety Features Relative to Location

1) Railings and Gratings

A) Manually cleaned channels shall be protected by guard railings and deck gratings, with adequate provisions for removal or opening to facilitate raking.

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B) Mechanically cleaned channels shall be protected by guard railings and deck gratings. Consideration should also be given to temporary access arrangements to facilitate maintenance and repair.

2) Mechanical Devices

A) Mechanical screening equipment shall have adequate removable enclosures to protect personnel against accidental contact with moving parts and to prevent dripping in multi-level installations.

B) A positive means of locking out each mechanical device shall be provided.

3) Units and Equipment in Deep Pits

Manually cleaned screens located in pits deeper than 4 feet shall be provided with stairway access, adequate lighting and ventilation, and convenient and adequate means for removing screenings. Access ladders may be used instead of steps in pits less than 4 feet deep. Hoisting or lifting equipment shall be used where necessitated by the depth of the pit or the amount of material to be removed.

4) In Buildings

Units and equipment installed in buildings where other equipment or offices are located shall be isolated from the rest of the building, and shall be provided with separate outside entrances and separate and independent means of ventilation.

5) Ventilation

A) Adequate ventilation shall be provided for installations described in subsections (a)(3) and (4). Ventilation may either be continuous or intermittent. If continuous, ventilation shall provide at least 12 complete air changes per hour; if intermittent, ventilation shall provide at least 30 complete air changes per hour.

B) Where the pit is deeper than 4 feet mechanical ventilation is required, and the air shall be forced into the screen pit area rather than exhausted from the screen pit. Dampers should not be used on fresh air ducts. Obstructions in air ducts should be avoided to prevent clogging. Air intake screens (bird and insect) shall be located so as to be easily accessible for cleaning.

C) Switches for operation of ventilation equipment should be marked and located at the entrance to the screen pit area. All intermittently operated ventilating equipment shall be interconnected with the respective lighting system. Consideration should be given to automatic controls where intermittent operation is used. The manual lighting-ventilation switch shall override the automatic controls.

D) The fan wheel shall be fabricated from non-sparking material. Refer to Section 370.610(a)(3)(C) for motor and

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electrical requirements.

- 6) Electrical Fixtures
Electrical fixtures and controls in enclosed places where gas may accumulate shall comply with Section 370.610(a)(3)(C).

b) Communication

Communication or other in-stream shredding of sewage solids shall be followed by primary settling or fine screening devices to remove the shredded stringy materials prior to the activated sludge process to minimize operational problems associated with reagglomeration of stringy materials.

c) Channels

Channels shall be equipped with the necessary gates to divert flow from any one unit. Provisions must also be made for dewatering each unit. Channels preceding and following screens shall be shaped and filled as necessary to eliminate settling of solids.

a) Bar-Racks and Screens

i) Where Required

Screening of raw sewage shall be provided at all mechanical treatment works. For lift station applications, see Subpart B.

2) Safety Features Relative to Location

A) Railings and Gratings

i) Manually cleaned screen channels shall be protected by guard railings and deck gratings. Consideration should also be given to temporary access arrangements to facilitate maintenance and repair.

ii) Mechanically cleaned screen channels shall be protected by guard railings and deck gratings. Consideration should also be given to temporary access arrangements to facilitate maintenance and repair.

B) Mechanical Devices

i) Mechanical screening equipment shall have adequate removal enclosures to protect personnel against accidental contact with moving parts and to prevent dripping in unit level installations.

ii) A positive means of locking out each mechanical device shall be provided.

e) In-Deep Pits

Manually cleaned screens located in deep pits shall be provided with a stairway access adequate lighting ventilation and convenient and adequate means for removing screenings.

B) In-Buildings

Screening devices installed in a building where other equipment or offices are located shall be isolated from the rest of the building provided with separate outside entrances and provided with separate and independent means of ventilation.

B) Ventilation

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i) Adequate ventilation shall be provided. Ventilation may either be continuous or intermittent. Ventilation if continuous shall provide at least 12 complete air changes per hour. If intermittent ventilation shall provide at least 30 complete air changes per hour.

ii) Where the area is below the ground surface, mechanical ventilation is required and the air shall be forced into the screen pit area rather than exhausted from the screen pit. Dampers should not be used on fresh air ducts. Screens or other obstructions in air ducts should be avoided to prevent clogging.

iii) Switches for operation of ventilation equipment should be marked and located at the entrance to the screen pit area. All intermittently operated ventilation equipment shall be interconnected with the respective lighting system. Consideration should be given to automatic controls where intermittent operation is used. The manual lighting ventilation switch shall override the automatic controls.

iv) The fan wheel shall be fabricated from non-sparking material. Automatic heating and dehumidification equipment shall be provided in all areas located totally below the ground surface.

P) Electrical Fixtures

Electrical fixtures and controls in enclosed places where gas may accumulate shall comply with the National Electrical Code requirements for Class I, Group B, Division 1 locations.

3) Design and Installation

A) Manually Cleaned Screens

Clear openings for manually cleaned screens between bars should be from 1 to 1 3/4 inches. Design and installation shall be such that they can be conveniently cleaned. An accessible platform shall be provided on which the operator may take screenings easily and safely. Suitable drainage facilities with return flow to process shall be provided for the platform.

B) Mechanical Screens

Clear openings for mechanically cleaned screens may be as small as 5/8 of an inch. Mechanical screens shall be located so as to be protected from freezing.

C) Velocities Through Screens

For manually or mechanically raked bar screens, the maximum velocities during peak flow periods should not exceed 2.5 feet per second. The velocity shall be calculated from a vertical projection of the screen openings on the cross-sectional area between the invert of the channel and the flow line.

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- B) Invert
The screen channel invert shall be at least 3 inches below the invert of the incoming sewers. To prevent jacking action, the length and/or construction of the screen channel shall be adequate to reestablish hydraulic flow pattern following the drop in elevation.
- B) Slope
Manually cleaned screens should be placed on a slope of 1:40 to 45 degrees with the horizontal.
- 4) Control Systems
A) Timing Devices
All mechanical units which are operated by timing devices should be provided with auxiliary controls which will set the cleaning mechanism in operation at predetermined high water marks.
- B) Manual Override
Automatic controls shall be supplemented by a manual override.
- E) Electrical Fixtures and Controls
Electrical fixtures and controls in enclosed places where gas may accumulate shall comply with the National Electrical Code requirements for Class I, Group D, Division I locations.
- 5) Disposal of Screenings
A) Ample sized vector proof facilities shall be provided for removal, handling and storage of screenings in a sanitary manner. Suitable drainage facilities shall be provided for the storage areas with drainage returned to process. The return of screenings to the sewage flow is unacceptable.
- B) Burial, Hauling to an approved sanitary landfill, or approved incineration by methods meeting the provisions of all applicable regulations is required and shall be discussed in the plan documents. Open disposal is prohibited.
- b) Comminution
Comminution or other in-stream shredding of sewage solids shall be followed by primary settling or fine screening devices to remove the shredded stringy materials prior to the activated sludge process to minimize operational problems associated with reagglomeration of stringy materials.
- c) Channels
Channels shall be equipped with the necessary gates to divert flow from any one screening unit. Provisions must also be made for dewatering each unit. Channels preceding and following screens shall be shaped and fitted as necessary to eliminate settling of solids.
- d) Auxiliary Screens
Where mechanically operated screening is used, auxiliary manually cleaned screens shall be provided. Design shall include provisions

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for automatic diversion of the entire sewage flow through the auxiliary screens should the regular units fail. Refer to subsection (f)(3).

e) Fine Screens
Fine screens may be used in lieu of primary sedimentation providing that subsequent treatment units are designed on the basis of anticipated screen performance. Fine screens should not be considered equivalent to primary sedimentation where fine screens are used. Additional removal of floatable oils and greases shall be provided if they will adversely affect the function of downstream treatment units.

(Source: Amended at 20 Ill. Reg. _____, effective _____)

Section 370.610 Screening Devices Grit Removal Facilities

a) Bar Racks and Screens

1) Where Required

Screening of raw sewage shall be provided at all mechanical treatment works. For lift station applications, see Subpart D.

2) Design and Installation

A) Manually Cleaned Screens

Clear openings for manually cleaned screens between bars should be from 1 to 3/4 inches. Design and installation shall be such that they can be conveniently cleaned. An accessible platform shall be provided on which the operator may rake screenings easily and safely. Suitable drainage facilities with return flow to process shall be provided for the platform.

B) Mechanical Screens

Clear openings for mechanically cleaned screens may be as small as practical to assure the proper operation and maintenance of treatment facilities. Mechanical screens shall be located so as to be protected from freezing and to facilitate maintenance.

C) Velocities Through Screens

For manually or mechanically raked bar screens the maximum velocities during peak flow periods should not exceed 2.5 feet per second. The velocity shall be calculated from a vertical projection of the screen openings on the cross-sectional area between the invert of the channel and the flow line. Excessive head loss through the screen, which may affect upstream flow measurement or bypassing, shall be taken into account.

D) Invert

The screen channel invert shall be at least 3 inches below the invert of the incoming sewers. To prevent jacking action, the length and/or construction of the screen channel

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shall be adequate to reestablish hydraulic flow pattern following the drop in elevation.

- E) Slope
Manually cleaned screens should be placed on a slope of 30 to 45 degrees with the horizontal.

3) Control Systems

- A) Timing Devices
All mechanical units which are operated by timing devices should be provided with auxiliary controls which will set the cleaning mechanism in operation at predetermined high water marks.

- B) Manual Override
Automatic controls shall be supplemented by a manual override.

- C) Electrical fixtures and Controls
Electrical fixtures and controls in enclosed places where gas may accumulate shall comply with the National Electrical Code requirements for Class I, Group D, Division I locations.

4) Disposal of Screenings

- A) Amply-sized, vector-proof facilities shall be provided for removal, handling and storage of screenings in a sanitary manner. Suitable drainage facilities shall be provided for the storage areas with drainage returned to process. The return of ground screenings to the sewage flow is unacceptable.

- B) Disposal shall be in accordance with 35 Ill. Adm. Code 700 and shall be discussed in the plan documents.

b) Auxiliary Screens

Where mechanically operated screening is used, auxiliary manually cleaned screens shall be provided. Design shall include provisions for automatic diversion of the entire sewage flow through the auxiliary screens should the regular units fail. Refer to subsection (a)(2).

c) Fine Screens

Fine screens may be used in lieu of primary sedimentation providing that subsequent treatment units are designed on the basis of anticipated screen performance. Fine screens should not be considered equivalent to primary sedimentation. Where fine screens are used, additional removal of floatable oils and greases shall be provided if they will adversely affect the function of downstream treatment units.

a) Where Required

Grit-removal facilities should be provided for all sewage treatment plants and are required for plants receiving sewage from combined sewers or from sewer systems receiving substantial amounts of grit. If a plant serving a separate sewer system is designed without grit removal facilities the design shall include provision for future

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installation. Consideration shall be given to possible damaging effects on pumps and other preceding equipment and the need for additional storage capacity in treatment units where grit is likely to accumulate.

b) Location

Grit-removal facilities should be located ahead of pumps in such cases; coarse bar racks should be placed ahead of mechanically cleaned grit-removal facilities.

c) Type and Number of Units

- 1) The selection of the type of grit removal shall be based on necessary flexibility of velocity control to remove the selected size grit particles through the range of expected plant flow; the volume of grit expected and available area and hydraulic gradient limits at the site; aerated or area type grit removal units equipped with adequate controls for operational flexibility are recommended where flow rates and grit characteristics and volume are expected to vary widely.

- 2) Plants treating wastes from combined sewers shall have at least one, preferably two or more mechanically cleaned grit removal units with provision for unit bypassing. A single manually cleaned or mechanically cleaned grit chamber with unit bypass is acceptable for small sewage treatment plants serving separate sanitary sewer systems. Minimum facilities for larger plants serving separate sanitary sewers shall be at least one mechanically cleaned unit with a unit bypass.

d) Design Factors

- 1) Channel-type Units
A) Turbulence Control
The equipment and inlet and outlet structures shall be designed to minimize turbulence throughout the channel.

B) Velocity and Detention

Channel-type chambers shall be designed to provide controlled velocities as close as possible to 1 foot per second. The detention period shall be based on the size of particle to be removed.

2) Aerated Units

A) Inlet

The inlet shall be located and arranged to prevent short circuiting to the outlet and oriented to the unit flow pattern so as to provide for adequate scouring segregation of organic and grit materials prior to discharge.

B) Detention

A detention time of at least 3 minutes at peak flow should be provided.

C) Air Supply

Air should be supplied at 5 cubic feet per minute (cfm) per foot of tank length. The rate of air supplied shall be widely variable so as to maximize unit process

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Grit removal facilities should be located ahead of pumps. In such cases, coarse bar racks should be placed ahead of mechanically cleaned grit removal facilities. Communion equipment, when used, shall be located downstream of the grit facility in order to reduce the operation and maintenance problems associated with grit.

- c) Type and number of units
- 1) The selection of the type of grit removal shall be based on necessary flexibility of velocity control to remove the selected size grit particulates through the range of expected plant flows, the volume of grit expected, and available area and hydraulic gradient limits at the site. Aetated or area type grit removal units equipped with adequate controls for operational flexibility are recommended where flow rates and grit characteristics and volume are expected to vary widely.
 - 2) Plants treating wastes from combined sewers shall have at least one, preferably two or more, mechanically cleaned grit removal units, with provision for unit bypassing. A single manually cleaned or mechanically cleaned grit chamber with unit bypass is acceptable for small sewage treatment plants serving separate sanitary sewer systems. Minimum facilities for larger plants serving separate sanitary sewers shall be at least one mechanically cleaned unit with a unit bypass.

d) Design Factors

- 1) Channel Type Units
 - A) Turbulence Control
The equipment and inlet and outlet structures shall be designed to minimize turbulence throughout the channel.
 - B) Velocity and Detention
Channel-type chambers shall be designed to provide controlled velocities as close as possible to 1 foot per second. The detention period shall be based on the size of particle to be removed.
- 2) Aerated Units
 - A) Inlet
The inlet shall be located and arranged to prevent short circuiting to the outlet and oriented to the unit flow pattern so as to provide for adequate scouring segregation of organic and grit materials prior to discharge.
 - B) Detention
A detention time of at least 3 minutes at design peak flow should be provided.
 - C) Air Supply
Air should be supplied at 5 cubic feet per minute (cfm) per foot of tank length. The rate of air supplied shall be widely variable so as to maximize unit process effectiveness.
- 3) Grit Washing and Freeze Protection
All facilities not provided with positive velocity control should

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effectiveness:

3) Grit Washing and Freeze Protection
All facilities not provided with positive velocity control should include means for grit washing to further separate organic and inorganic materials. Grit elevator and washing facilities shall be housed to prevent freezing. Provision for adequate heating and ventilation shall be provided to prevent corrosion.

- 4) Brainer
- 5) Provisions should be made for dewatering each unit.
- 6) Water
- 7) An adequate supply of water under pressure shall be provided for clean-up.

8) Grit Removal
Grit removal facilities located in deep pits shall be provided with mechanical equipment for pumping or hoisting grit to ground level. Such pits shall have a stairway and adequate lighting. An approved type elevator or manlift may be desirable in some locations. Adequate ventilation as described in Section 370.621(4)(2)(B) shall be provided.

9) Grit Handling
Impervious non-slip working surfaces with drains back to process shall be provided for grit handling areas. If grit is to be transported, the conveying equipment shall be designed to avoid loss of material and protection from freezing. Grit disposal methods shall be in compliance with all IPGB regulations and be described in the plan documents.

10) Electrical
All electrical fixtures and controls in enclosed or below-grade grit removal areas where hazardous gases may accumulate shall meet the requirements of the National Electrical Code for Class I, Group B Division 1 locations.

(Source: Amended at 20 Ill. Reg. _____, effective _____)

Section 370.620 Grit Removal Facilities Pre-Aeration

a) Where Required
Grit removal facilities should be provided for all sewage treatment plants and are required for plants receiving sewage from combined sewers or from sewer systems receiving substantial amounts of grit. If a plant serving a separate sewer system is designed without grit removal facilities, the design shall include provision for future installation. Consideration shall be given to possible damaging effects on pumps, and other preceding equipment, and the need for additional storage capacity in treatment units where grit is likely to accumulate.

b) Location

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include means for grit washing to further separate organic and inorganic materials. Grit elevator and washing facilities shall be housed to prevent freezing. Provision for adequate heating and ventilation shall be provided to prevent corrosion.

4) Drains.

Provisions should be made for dewatering each unit.

5) Water

An adequate supply of water under pressure shall be provided for clean up.

e) Grit Removal

Grit removal facilities located in pits shall be provided with mechanical equipment for pumping or hoisting grit to ground level. Pits deeper than 4 feet shall be provided with stairway access. An approved-type elevator or manlift may be desirable in some locations. Adequate ventilation, as described in Section 370.600(a)(5), and lighting shall be provided for pits that are deeper than 4 feet or are within an enclosed area.

f) Grit Handling

Impervious, non-slip, working surfaces with drains back to process shall be provided for grit handling areas. Safety handrails shall be provided around the working platform areas. If grit is to be transported, the conveying equipment shall be designed to avoid loss of material and protection from freezing. Grit disposal methods shall be in compliance with 35 Ill. Adm. Code 700 and shall be described in the plan documents.

g) Electrical

All electrical fixtures and controls in enclosed or below grade grit removal areas where hazardous gases may accumulate shall meet the requirements of the National Electrical Code for Class I, Group D, Division 1 locations.

Pre-aeration of sewage to reduce septicity may be required in special cases.

(Source: Amended at 20 Ill. Reg. _____, effective _____)

Section 370.630 Pre-Aeration

Pre-aeration of sewage to reduce septicity may be required in special cases.

(Source: Added at 20 Ill. Reg. _____, effective _____)

SUBPART G: SETTLING

Section 370.700 General Considerations

a) Number of Units

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Multiple units capable of independent operation are desirable and shall be provided in all plants where design average flows exceed 100,000 gallons per day. Plants not having multiple units shall include other provisions to assure continuity of treatment.

b) Arrangement

Settling tanks shall be arranged in accordance with Sections 370.520i49(e) and 370.710i62(g).

c) Flow Distribution

Effective flow splitting measurement devices and control appurtenances shall be provided to insure proper organic and hydraulic proportion of flow to each unit. Refer to Section 370.520i43(f).

d) Tank Configuration

Consideration should be given to the probable flow pattern in the selection of tank size and shape, and inlet and outlet type and location.

(Source: Amended at 20 Ill. Reg. _____, effective _____)

Section 370.710 Design Considerations

a) Dimensions

The minimum length of flow from inlet to outlet should be 10 feet unless special provisions are made to prevent short circuiting. The sidewater depth for primary clarifiers shall be as shallow as practicable, but not less than 7 feet. Clarifiers following the activated sludge process shall have sidewater depths of at least 12 feet to provide adequate separation zone between the sludge blanket and the overflow weirs. Clarifiers following fixed film reactors shall have sidewater depth of at least 7 feet.

b) Surface Settling Rates (Overflow Rates)

The hydraulic design of settling tanks shall be based on the anticipated peak hourly flow.

1) Primary and Bypass Settling Tanks

A) Primary Settling

Some indication of BOD removals may be obtained by reference to Appendix E, Figure No. 2. The figure should not be used to design units which receive wastewaters which have BOD and total suspended solids concentrations which are substantially different from normal domestic sewage. The operating characteristics of such units should be established by appropriate field and laboratory tests. If activated sludge is wasted ~~only~~ only-separate-sludge--thickening ~~is--not--provided~~ to the primary settling unit, then the design surface settling rate shall not exceed 1,000 gallons per day per square foot based on design peak hourly flow, including all flows to the unit. Refer to subsection (b)(3) and Section 370.820.

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- B) Bypass--Setting---Combined Sewer Overflow and Bypass Settling
The maximum surface settling rate shall not exceed 1,800 gallons per day per square foot based on peak hourly flow. Minimum liquid depth shall not be less than 10 feet. Minimum detention shall not be less than one hour. The minimum length of flow from inlet baffle to outlet should be 10 feet, unless special provisions are made to prevent short-circuiting.
- 2) Intermediate Settling Tanks
Surface settling rates for intermediate settling tanks following series units of fixed film reactor processes should not exceed 1500 gallons per day per square foot based on design peak hourly flow. Surface settling rates for intermediate settling tanks following the activated sludge process shall not exceed 1000 gallons per day per square foot based on design peak hourly flow.
- 3) Final Settling Tanks
Settling tests should be conducted whenever a pilot study of biological treatment is warranted by unusual waste characteristics or treatment requirements. Testing shall be done where proposed loadings go beyond the limits set forth in subsections (b)(3)(A) and (b)(3)(B).
- A) Final Settling Tanks - Fixed Film Biological Reactors
Surface settling rates for settling tanks following trickling filters or rotating biological contactors shall not exceed 1000 gallons per day per square foot based on design peak hourly flow.
- B) Final Settling Tanks - Activated Sludge
i) Multiple units capable of independent operation shall be provided at all plants. To perform properly while producing a concentrated return flow, activated sludge settling tanks must be designed to meet thickening as well as solids separation requirements.
ii) Since the rate of recirculation of return sludge is quite high in activated sludge processes, surface settling rate and weir overflow rate should be adjusted for the various processes to minimize the problems with sludge loadings, density currents, inlet hydraulic turbulence, and occasional poor sludge settleability.
iii) The hydraulic loadings shall not exceed 1000 gallons per day per square foot based on design peak hourly flow, and 800 gallons per day per square foot based on peak hourly flow for separate activated sludge nitrification stage. Refer to Section 370.1210(c)(4)(5).
- iv) The solids loading shall not exceed 50 pounds solids per day per square foot at the design peak hourly rate. Consideration should be given to flow equalization.

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- v) Flow equalization is recommended where the peak hourly load exceeds 300% of the design average load.
- C) Rectangular Units
Rectangular final settling tanks following the activated sludge process frequently exhibit poor solids separation characteristics and which are attributed to the formation of density currents. The use of rectangular final clarifiers should therefore be avoided. If land availability or other local conditions mandate the use of rectangular final clarifiers following the activated sludge process, the following design modifications shall be made:
i) Within practicable limits, length shall be approximately equal to the width.
ii) Excess weir length shall be provided.
iii) Baffles shall be provided to interrupt longitudinal density currents.
iv) Weir placement shall be adjustable, so as to allow optimization of the upflow takeoff points.
- c) Inlet Structures
Inlets and inlet baffling should be designed to dissipate the inlet velocity, to distribute the flow equally both horizontally and vertically and to prevent short circuiting. Channels should be designed to maintain a velocity of at least one foot per second at one-half the design flow. Corner pockets and dead ends should be eliminated and corner fillets or channeling used where necessary. Provisions shall be made for prevention or removal of floating materials in inlet structures.
- d) Weirs
1) General
Overflow weirs shall be readily adjustable over the life of the structure to correct for differential settlement of the tank.
2) Location
Overflow weirs shall be located to optimize actual hydraulic detention time, and minimize short circuiting.
3) Design Rates
Weir loadings shall not exceed 20,000 gallons per day per lineal foot based on design peak hourly flows for plants having design designed-for average flows of 1.0 mgd or less. Overflow rates shall not exceed 30,000 gallons per day per lineal foot based on design peak hourly flow for plants having design designed-for--an average flow of greater than 1.0 mgd. Higher weir overflow rates may be allowed for bypass settling tanks. If pumping is required, weir loadings should be related to pump delivery rates to avoid short circuiting. Refer to Section 370.410(c)(8).
- 4) Weir Troughs
Weir troughs shall be designed to prevent submergence at maximum design flow, and to maintain a velocity of at least one foot per second at one-half design average flow.

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e) Submerged Surfaces

The tops of troughs, beams, and similar submerged construction elements shall have a minimum slope of 1.4 vertical to 1 horizontal; the underside of such elements should have a slope of 1 to 1 to prevent the accumulation of scum and solids. ~~Submerged pipes with a diameter greater than or equal to 6 inches shall be capped by angular bunnies so as to limit solids sedimentation on such surfaces and to facilitate cleaning operations.~~

f) Unit Dewatering

Unit dewatering featuring shall conform to the provisions outlined in Section 370.530. The bypass design should also provide for redistribution of the plant flow to the remaining units.

g) Freeboard

Walls of settling tanks shall extend at least 6 inches above the surrounding ground surface and shall provide not less than 12 inches freeboard. Additional freeboard or the use of wind screens is recommended where larger settling tanks are subject to high velocity wind currents that would cause tank surface waves and inhibit effective scum removal.

(Source: Amended at 20 Ill. Reg. _____, effective _____)

Section 370.720 Sludge and Scum Removal

a) Scum Removal

Full surface mechanical effective scum collection and removal facilities, including baffling, shall be provided for all settling tanks, except for Imhoff tanks. The unusual characteristics of scum which may adversely affect pumping, piping, sludge handling and disposal, should be recognized in design. Provisions may be made for the discharge of scum with the sludge; however, other special provisions for disposal may be necessary. Refer to Section 370.710(g).

b) Sludge Removal

Mechanical sludge sludge collection and withdrawal facilities shall be designed to assure an effective and controlled rate of rapid removal of the sludge. Suction withdrawal is encouraged ~~should be provided for activated sludge plants designed for reduction of the nitrogenous oxygen demand and is encouraged for those plants designed for carbonaceous oxygen demand reduction.~~

1) Sludge Hopper

The minimum slope of the side walls shall be 1.7 vertical to 1 horizontal. Hopper wall surfaces should be made smooth with rounded corners to aid in sludge removal. Hopper bottoms shall have a maximum dimension of 2 feet. Extra depth sludge hoppers for sludge thickening are not acceptable.

2) Cross-Collectors

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Cross-collectors serving one or more settling tanks may be useful in place of multiple sludge hoppers.

3) Sludge Removal Piping

Each hopper shall have an individually valved sludge withdrawal line at least 6 inches in diameter. The static head available for withdrawal of sludge shall be 30 inches or greater, as necessary to maintain a 3 feet per second velocity in the withdrawal pipe. Clearance between the end of the withdrawal line and the hopper walls shall be sufficient to prevent "bridging" of the sludge. Adequate provisions shall be made for rodding or back-flushing individual pipe runs. Piping shall also be provided to return waste sludge from secondary and tertiary processes to primary clarifiers where they are used. Refer to Section 370.820.

4) Sludge Removal Control

Sludge wells equipped with telescoping valves or swing pipes are recommended for primary sludge and fixed film sludges where periodic withdrawal is proposed. Air lift type of sludge removal will not be approved for removal of primary sludges.

(Source: Amended at 20 Ill. Reg. _____, effective _____)

Section 370.740 Imhoff Tanks

a) General

Imhoff tanks may be used for the sedimentation of settleable solids and for the unheated anaerobic digestion of these solids.

b) Settling Compartment Design

1) Settling Rate

Surface settling rate shall not exceed 1000 gallons per day per square foot based upon design peak hourly flow.

2) Detention Period

A detention period of not less than 1 hour based upon design peak hourly flow shall be provided.

3) Dimensions

The minimum length of flow between inlet and outlet should be 10 feet and at least 6 feet of settling depth should be provided.

4) Freeboard

The freeboard shall be 18 inches or more.

5) Hopper Slope

The bottom of the settling chamber of the conventional tank shall have a slope of at least 1.4 vertical to 1.0 horizontal. The slot at the bottom of the settling chamber allowing solids passage shall have a minimum opening and a minimum overlap of 6 inches.

6) Inlets and Outlets

Inlet and outlet arrangements should be designed so that the

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direction of flow may be reversed to allow for a more even distribution of solids in the digestion compartment. Adequate scum baffles shall be provided at the ends of the flow-through chamber.

- 7) Weirs
Weir design and overflow rates shall be in accordance with Section 370.710(d).

- 8) Walkway

A walkway along the length of the tank shall be provided.

- c) Sludge Digestion Compartment Design
1) Digestion Chamber Capacity

The digestion chamber shall provide 4 cubic feet of volume per capita for primary treatment and should provide 6 cubic feet of volume per capita if secondary process sludge is also to be digested. The capacity shall be measured below a horizontal plane 18 inches below the settling chamber slot.

- 2) Vent Area

A surface area equal to 20% of the total tank surface area shall be provided for venting the digestion compartment.

- 3) Hopper Slope

The bottom of the digestion chamber should be a hopper type structure with minimum side slopes of 1.75 vertical to 1.0 horizontal. Sludge draw-off from the digestion chamber is usually accomplished by utilizing the hydrostatic head with a minimum differential of 6 feet being required. Eight inch diameter sludge draw-off piping or larger shall be used.

(Source: Amended at 20 Ill. Reg. _____, effective _____)

Section 370.750 Septic Tank - Tile System

- a) General

Septic tank tile systems shall should be used only for domestic or similar organic waste, where soil conditions are suitable and sewers tributary to treatment works are not available.

- b) Design Standards

Specific design information is contained in the document titled: if "Manual-of-Septic-Tank-Practices"-which-can-be-obtained-from Superintendent--of--Documents B-5----Government---Printing-Office Washington-B-6-2001 if "Private Sewage Disposal Licensing Act & Code" which can be obtained from:

State of Illinois
Department of Public Health
Springfield, Illinois 62706.

(Source: Amended at 20 Ill. Reg. _____, effective _____)

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SUBPART H: SLUDGE PROCESSING, STORAGE AND DISPOSAL

Section 370.810 Process Selection

The selection of sludge handling unit processes should be based upon at least the following considerations:

- Local land use.
- System energy requirements.
- Cost effectiveness of sludge thickening and dewatering.
- Equipment complexity and staffing requirements.
- Adverse effects of heavy metals and other sludge components upon the unit processes.
- Sludge digestion or stabilization requirements.
- ~~Side stream or return flow treatment requirements (e.g., digester or sludge storage facilities supernatant, dewatering unit filtrate, wet oxidation return flows).~~

- 9) ~~Back-up techniques of sludge handling and disposal:~~

- Sludge storage requirements.
- Methods of ultimate disposal.

- 11) ~~Back-up techniques of sludge handling and disposal.~~

(Source: Amended at 20 Ill. Reg. _____, effective _____)

Section 370.820 Sludge Thickening

- a) ~~Sludge As-the-first-step-of-sludge-handling-the-need-for-sludge~~ thickeners to reduce the volume of sludge should be considered. The design of thickeners (gravity tank, gravity belt, dissolved-air flotation, centrifuge, and others) should take into account consider the type and concentration of sludge, the sludge stabilization processes, storage requirements, the method of ultimate sludge disposal, chemical needs, and the cost of operation. The use of ~~gravity thickening tanks for unstabilized sludges is not recommended because of problems due to septicity unless provisions are made for adequate control of process operational problems as well as problems of odors at the gravity thickener and any following unit processes.~~ Particular attention should be given to the pumping and piping of the concentrated sludge and possible onset of anaerobic conditions.
- b) Process selection and unit process design parameters should be based on prototype pilot studies. The Agency will require such studies where the sizing of other plant units is dependent on performance of the thickeners. Refer to Section 370.520(b) for any new process determination.

(Source: Amended at 20 Ill. Reg. _____, effective _____)

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Section 370.830 Anaerobic Sludge Digestion

a) General

- 1) Multiple Units
Multiple units or alternate methods of sludge processing shall be provided. Facilities for sludge storage and supernatant separation in an additional unit may be required, depending on raw sludge concentration and disposal methods for sludge and supernatant.

2) Depth

If process design provides for supernatant withdrawal, the proportion of depth to diameter should be such as to allow for the formation of a reasonable depth of supernatant liquor. A minimum side water depth of 20 feet is recommended.

3) Design Maintenance Provisions

To facilitate emptying, cleaning, and maintenance the following features are desirable:

A) Slope

The tank bottom shall slope to drain toward the withdrawal pipe. For tanks equipped with a suction mechanism for sludge withdrawal, a bottom slope not less than 1 to 12 is recommended. Where the sludge is to be removed by gravity alone, 1 to 4 slope is recommended.

B) Access Manholes

At least 2 access manholes should be provided in the top of the tank in addition to the gas dome. There should be stairways to reach the access manholes. A separate side wall manhole shall be provided that is large enough to permit the use of mechanical equipment to remove grit and sand. The side wall access manhole should be low enough to facilitate heavy equipment handling and may be buried in the earthen bank insulation.

C) Safety

Non-sparking tools, rubber-soled shoes, safety harness, gas detectors for inflammable and toxic gases, and at least two self-contained breathing units shall be provided for emergency use.

4) Toxic Materials

If the anaerobic digestion process is proposed, the basis of design shall be supported by wastewater analyses to determine the presence of undesirable materials, such as high concentrations of sulfates and inhibitory concentrations of heavy metals.

- b) Sludge Inlets and Outlets, and Recirculation and High Level Overflows
 - 1) Multiple sludge inlets and draw-offs and, where used, multiple recirculation suction and discharge points to facilitate flexible operation and effective mixing of the digester contents shall be provided unless adequate mixing facilities are provided within the digester.

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- 2) One inlet should discharge above the liquid level and be located at approximately the center of the tank to assist in scum breakup. The second inlet should be opposite to the suction line at approximately the 2/3 diameter point across the digester.

- 3) Raw sludge inlet discharge points should be so located as to minimize short circuiting to the digested sludge or supernatant draw-offs.

- 4) Sludge withdrawal to disposal should be from the bottom of the tank. The bottom withdrawal pipe should be interconnected with the necessary valving to the recirculation pipe, to increase versatility in mixing the tank contents.

- 5) An unvalved vented overflow shall be provided to prevent damage to the digestion tank and cover in case of accidental overflowing. This emergency overflow shall be piped to a point and at a rate in the treatment process or sidestream treatment facilities so as to minimize the impact on process units.

c) Tank Capacity

1) Rational Design

The total digestion tank capacity shall be determined by rational calculations based upon such factors as volume of sludge added, its percent solids, and character, the temperature to be maintained in the digesters, the degree or extent of mixing to be obtained, the degree of volatile solids reduction required, method of sludge disposal, and the size of the installation with appropriate allowances for gas, scum, sludge and supernatant and digested sludge storage. Secondary digesters of two-stage series digestion systems that are used for digested sludge storage and concentration shall not be credited in the calculations for volumes required for sludge digestion. Calculations should be submitted to justify the basis of design.

2) Empirical Design

When such calculations are not submitted to justify the design based on the above factors, the minimum combined digestion tank capacity outlined below will be required. Such requirements assume that the raw sludge is derived from ordinary domestic wastewater, a digestion temperature is to be maintained in the range of 85° to 95° F (29° to 35° C), 40 to 50 percent volatile matter in the digested sludge, and that the digested sludge will be removed frequently from the process. (See also subsection (a)(1) above and Section 370.860(a)(1).)

A) Completely Mixed Systems

For digestion systems providing for intimate and effective mixing of the digester contents, the system may be loaded up to 80 pounds of volatile solids per 1000 cubic feet of volume per day in the active digestion units.

B) Moderately Mixed Systems

For digestion systems where mixing is accomplished only by circulating sludge through an external heat exchanger, the

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system may be loaded up to 40 pounds of volatile solids per 1000 cubic feet of volume per day in the active digestion units. This loading may be modified upward or downward depending upon the degree of mixing provided.

C)

Digester Mixing
Facilities for mixing the digester contents shall be provided where required for proper digestion by reason of loading rates or other features of the system. Where sludge recirculation pumps are used for mixing they shall be provided in accordance with the applicable requirements of Section 370.850(a).

d) Gas Collection, Piping, and Appurtenances

1) General

All portions of the gas system including the space above the tank liquor, storage facilities and piping shall be so designed that under all normal operating conditions, including sludge withdrawal, the gas will be maintained under pressure. All enclosed areas where any gas leakage might occur shall be adequately ventilated.

2) Safety Equipment

All necessary safety facilities shall be included where gas is produced. Pressure and vacuum relief valves and flame traps together with automatic safety shut off valves shall be provided and protected from freezing. Water seal equipment shall not be installed. Safety equipment and gas compressors should be housed in a separate room with an exterior door.

3) Gas Piping and Condensate

Gas piping shall have a minimum diameter of 4 inches, except that a smaller diameter pipe may be used at the gas production meter. be--of--adequate--diameter--and Gas piping shall slope to condensation traps at low points. The use of float-controlled condensate traps is not permitted. Condensation traps shall be protected from freezing. Tightly fitted self-closing doors should be provided at connecting passageways and tunnels which connect digestion facilities to other facilities to minimize the spread of gas. Piping galleries shall be ventilated in accordance with subsection (d)(7).

4) Gas Utilization Equipment

Gas burning boilers, engines, etc., shall be located in well ventilated rooms. Such rooms would not ordinarily be classified as a hazardous location if isolated from the digestion gallery or ventilated in accordance with subsection (d)(7). Gas lines to these units shall be provided with suitable flame traps.

5) Electrical Fixtures

Electrical fixtures and controls, in places enclosing anaerobic digestion appurtenances, where hazardous gases are normally contained in the tanks and piping, shall comply with the National Electric Code for Class 1, Group D, Division 2 locations. Refer

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to subsection (d)(7).

6) Waste Gas

A) Waste gas burners shall be readily accessible and should be located at least 50 feet away from any plant structure if placed at ground level, or may be located on the roof of the control building if sufficiently removed from the tank. Waste gas burners shall be of sufficient height to prevent injury to personnel due to wind or downdraft conditions.

B) All waste gas burners shall be equipped with automatic ignition such as a pilot light or a device using a photoelectric cell sensor. Consideration should be given to the use of natural or propane gas to insure reliability of the pilot.

C) Gas piping shall be sloped at a minimum of 2 percent up to the waste gas burner with a condensate trap provided in a location not subject to freezing.

7) Ventilation

Any underground enclosures connecting with digestion tanks or containing sludge or gas piping or equipment shall be provided with forced ventilation in accordance with Section 370.410(g)(1-4) and (6).

8) Meter

A gas meter with bypass shall be provided to meter total gas production for each active digestion unit. Total gas production for two-stage digestion systems operated in series may be measured by a single gas meter with proper interconnected gas piping. Where multiple primary digestion units are used with a single secondary digestion unit, a gas meter shall be provided for each primary digestion unit. The secondary digestion unit may be interconnected with the gas measurement unit of one of the primary units. Interconnected gas piping shall be properly valved with gastight gate valves to allow measurement of gas production from, or maintenance of, either digestion unit. Gas meters may be of the orifice plate, turbine or vortex type. Positive displacement meters are not recommended. The meter used must be specifically designed for contact with corrosive and dirty gases.

e) Digestion Tank Heating

1) Insulation

Wherever possible digestion tanks should be constructed above ground-water level and shall be suitably insulated to minimize heat loss. Maximum utilization of earthen bank insulation should be used.

2) Heating Facilities

Sludge may be heated by circulating the sludge through external heaters or by units located inside the digestion tank. Refer to subsection (e)(2)(B).

A) External Heating

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Piping shall be designed to provide for the preheating of feed sludge before introduction into the digesters. Provisions shall be made in the lay-out of the piping and valving to facilitate heater exchanger tube removal and cleaning of the these lines. Heat exchanger sludge piping should be sized for peak heat transfer requirements. Heat exchangers should have a heating capacity of 130 percent of the calculated peak heating requirement to account for sludge tube fouling.

B)

Other Heating Methods

- i) The use of hot water heating coils affixed to the walls of the digester, or other types of internal heating equipment that require emptying the digester contents for repair, are not acceptable.
- ii) Other systems and devices have been developed recently to provide both mixing and heating of anaerobic digester contents. These systems will be reviewed on their own merits. Operating data detailing their reliability, operation and maintenance characteristics will be required.

3) Heating Capacity

- A) Sufficient heating capacity shall be provided to consistently maintain the design sludge temperature considering the insulation provided and ambient cold weather conditions. Where digestion tank gas is used for other purposes, an auxiliary fuel may be required.
- B) The provision of standby heating capacity or the use of multiple units sized to provide the heating requirements shall be considered unless acceptable alternative means of handling raw sludge are provided.

4) Hot Water Internal Heating Controls

- A) Mixing Valves

A suitable automatic mixing valve shall be provided to temper the boiler water with return water so that the inlet water to the removable heat jacket or coil in the digester can be held below a temperature at which caking will be accentuated. Manual control should also be provided by suitable bypass valves.

B)

Boiler Controls

The boiler should be provided with suitable automatic controls to maintain the boiler temperature at approximately 190° F (82° C) to minimize corrosion and to shut off the main gas supply in the event of pilot burner or electrical failure, low boiler water level, low gas pressure, excessive boiler water temperature or pressure.

C)

Boiler Water Pumps

Boiler water pumps shall be sealed and sized to meet the operating conditions of temperature, operating head and flow

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rate. Duplicate units shall be provided.

D)

Thermometers

Thermometers shall be provided to show inlet and outlet temperatures of the sludge, hot water feed, hot water return and boiler water.

E)

Water Supply

The chemical quality of the water supply shall be suitable for use as boiler water. Refer to Section 370.550(b) for additional water supply considerations.

5) External Heater Operating Controls

All controls necessary to insure effective and safe operation are required. Provision for duplicate units in critical elements should be considered.

6+

Digester-Mixing

~~Facilities for mixing the digester contents shall be provided where required for proper digestion by reason of loading rates or other features of the system. Where sludge recirculation pumps are used for mixing they shall be provided in accordance with appropriate requirements of Section 370.176(a).~~

f) Supernatant Withdrawal

Where supernatant separation is to be used to concentrate sludge in the digester units and increase digester solids retention time, the design shall provide for ease of operation and positive control of supernatant quality.

1) Piping Size

Supernatant piping should not be less than 6 inches in diameter.

2) Withdrawal Arrangements

A) Withdrawal Levels

Piping should be arranged so that withdrawal can be made from 3 or more levels in the tank. ~~An A-positive overflow vented overflow shall be provided. The emergency overflow shall be piped to a point and at a rate in the treatment process or sidestream treatment facilities so as to minimize the impact on process units.~~

B) Withdrawal Selection

On fixed cover tanks the supernatant withdrawal level should preferably be selected by means of interchangeable extensions at the discharge end of the piping.

C) Supernatant Selector

- ++ A fixed screen supernatant selector of similar device may only be used in an unmixed secondary digestion unit. If such a supernatant selector is provided, provisions shall be made for at least one other draw-off level located in the supernatant zone of the tank, in addition to the unvalved emergency supernatant draw-off pipe. High pressure back-wash facilities shall be provided.

+++ A supernatant selector is not recommended for a single-stage digester with supernatant return to the main process.

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- 3) Sampling
 Provision shall be made for sampling at each supernatant draw-off level. Sampling pipes should be at least 1 1/2 inches in diameter and should terminate at a suitably sized sampling sink or basin.
- 4) Supernatant Disposal
 Supernatant return and disposal facilities shall should be designed to prevent adverse hydraulic and organic effects on plant operations. If nutrient removal (e.g., phosphorus, ammonia) must be accomplished at a plant, then a separate supernatant side stream treatment system should be considered provided.

(Source: Amended at 20 Ill. Reg. _____, effective _____)

Section 370.840 Aerobic Sludge Digestion

- a) General
 The aerobic sludge digestion system shall include provisions separate unit-processes for digestion, supernatant separation, and sludge concentration and any necessary sludge storage. These may be accomplished with separate tanks or processes or in digestion tanks.
- b) Multiple Units Tanks
 Multiple digestion units capable of independent operation are recommended for all plants and shall be provided in those plants where the design average flow exceeds 100,000 gallons per day. Plants without multiple units shall provide alternate sludge handling and disposal methods. Multiple tanks should be provided.
- c) Tank Capacity
 1) The following digestion tank capacities are based on a solids concentration of 2 percent with supernatant separation performed in a separate tank. If supernatant separation is performed in the digestion tank, a minimum of 25 percent additional volume is required. These capacities shall be provided unless sludge thickening facilities (refer to Section 370.820 970-173) are utilized to thicken the feed solids concentration to greater than 2 percent. If such thickening is provided, the digestion volumes may be decreased proportionally.

Sludge Source	Volume (ft. ³)/Population Equivalent (P.E.)
Waste activated sludge-no primary settling	4.5*
Primary plus waste sludge	4.0*

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Waste activated sludge exclusive of primary sludge	2.0*
Extended aeration activated sludge	3.0±0
Primary plus fixed film reactor sludges	3.0

*These volumes apply to waste activated sludge from single stage nitrification facilities with less than 24 hours detention time based on design average flow.

- 2) These volumes are based on digester temperatures of 59° F (15° Celsius ± C) and a solids retention time of 27 days. Aerobic digesters shall be covered to minimize heat loss or these volumes shall should be increased for colder temperature applications. Refer to subsection (g) below for necessary sludge storage. Additional volume may be required if the land application disposal method is used in order to meet applicable Federal regulations.

- d) Mixing
 Aerobic digesters shall be equipped with devices which can maintain solids in suspension and which provide complete mixing of the digester contents.
- e) Air Requirements
 Sufficient air shall be provided to keep the solids in suspension and maintain dissolved oxygen between 1 and 2 milligrams per liter (mg/l). For A minimum mixing and oxygen requirements, an air supply of 30 cfm per 1000 cubic feet of tank volume shall be provided with the largest blower out of service. If diffusers are used, the nonclog type is recommended, and they should be designed to permit continuity of service. If mechanical turbine aerators are utilized, at least two turbine aerators per tank shall be provided to permit continuity of service. Mechanical aerators are not acceptable for use in aerobic digesters due to freezing conditions experienced throughout Illinois.
- f) Supernatant Separation and Scum and Grease Removal
 1) Supernatant Separation
 Facilities shall be provided for effective separation or decanting of supernatant and for effective collection-and-removal of--scum--and-grease-for-final-disposal. Separate facilities are recommended; however, supernatant separation may be accomplished in the digestion tank if additional volume is provided, in accordance with subsection (c) above. The supernatant drawoff unit shall be designed to prevent the recycle of scum and grease back to plant process units. Provision should be made to withdraw supernatant from multiple levels of the supernatant withdrawal zone.
- 2) Scum and Grease Removal

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Facilities shall be provided for the effective collection of scum and grease for final disposal and to prevent recycle back to plant process units and prevent long term accumulation and potential for discharge of scum and grease in the effluent.

g) High Level Emergency Overflow

An unvalved high level overflow and any necessary piping shall be provided to return digester overflow back to the head of the plant or to the aeration process in case of accidental overflowing. The design of the overflow shall take into account the length of time and rate at which sludge is wasted during periods when the treatment plant is unattended, potential effects of overflow on plant process units, location of the discharge from the emergency overflow, and the potential for discharge of suspended solids in the plant effluent.

h) Digested Sludge Storage Volume

Sludge storage must be provided in accordance with Section 370.870 ~~either as additional volume in the digester or as a separate tank to accommodate daily sludge production volumes~~ as an operational buffer for unit outage and adverse weather conditions. Designs utilizing increased sludge age in the activated sludge system as a means of storage are not acceptable.

Liquid the sludge storage tank capacity shall be based on the following values unless digested sludge thickening facilities are utilized (refer to Section 370.173) to provide solids concentrations to greater than 2 percent.

Sludge Source Volume (ft.³/P.E./day)

Waste activated sludge-no primary settling, primary plus waste activated sludge, and extended aeration activated sludge	0.13
Waste activated sludge exclusive of primary sludge	0.06
Primary plus fixed film reactor sludged	0.10

3) Rational calculations justifying the number of days storage to be provided shall be submitted and shall be based on the total sludge handling system.

(Source: Amended at 20 Ill. Reg. _____, effective _____)

Section 370.845 High pH Stabilization

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a) General

Alkaline material may be added to liquid primary or secondary sludges for sludge stabilization in lieu of digestion facilities, to supplement existing digestion facilities, or for interim sludge handling. Inasmuch as the high pH stabilization process does not reduce organic matter but rather increases the mass of dry sludge solids, so that additional volumes of sludge will be generated in the absence of supplemental dewatering, the design shall account for the increased sludge quantities for storage and handling, transportation and disposal methods and associated costs.

b) Operational Criteria

Sufficient alkaline material shall be added to liquid sludge in order to produce a homogeneous mixture with a minimum pH of 12 after 2 hours of vigorous mixing. Facilities for adding supplemental alkaline material shall be provided to maintain the pH of the sludge during interim sludge storage periods.

c) Odor Control and Ventilation

Odor control facilities shall be provided for sludge mixing and treated sludge storage tanks that are located within 1/2 mile of residential or commercial areas. Indoor sludge mixing, storage and processing facilities shall have ventilation that meets the ventilation requirements contained in Section 370.410(g)(1-4) and (6) and shall comply with the safety precautions contained in Section 370.560. Adequate facilities shall be provided to condition the exhaust air to meet the applicable substantive and permitting requirements of 35 Ill. Adm. Code Subtitle B: Air Pollution.

d) Mixing Tanks and Equipment

1) Tanks

Mixing tanks may be designed to operate as either a batch or continuous flow process. A minimum of two tanks of adequate size to provide a minimum of 2 hours of contact time in each tank shall be provided. The following factors shall also be taken into account in determining the number and size of tanks:

- A) Peak sludge flow rates;
- B) Storage between batches;
- C) Dewatering or thickening performed in tanks;
- D) Repeating sludge treatment due to pH decay of stored sludge;
- E) Sludge thickening prior to sludge treatment;
- F) Type of mixing device used and associated maintenance and repair requirements.

2) Equipment

Mixing equipment shall be designed to provide vigorous agitation within the mixing tank, to maintain solids in suspension and to provide for a homogeneous mixture of the sludge solids and alkaline material. Mixing may be accomplished by either diffused aeration or mechanical mixing. For diffused aeration, an air supply of 30 cfm per 1000 cubic feet of mixing tank volume with the largest blower out of service shall be provided. Nonclogging

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diffusers designed to permit continuity of service should be used. Mechanical mixers shall be designed to assure continuity of service during freezing weather conditions and shall be equipped with impellers designed to minimize fouling from debris in the sludge.

e) Chemical Feed and Storage Equipment1) General

Equipment used for handling or storing alkaline shall be designed to provide operator protection from eye and tissue damage. Refer to Section 370.560 for proper safety precautions. Material storage, slaking and feed equipment shall be sealed as airtight as practicable to prevent contact of alkaline material with atmospheric carbon dioxide and water vapor and to prevent the escape of dust material. All equipment and associated transfer lines and piping shall be accessible for cleaning.

2) Feed and Slaking Equipment

The design of the feeding equipment shall be determined by the treatment plant size, type of alkaline material used, slaking required and operator requirements. Automated or batch equipment may be used. Automated feeders may be volumetric or gravimetric, based on accuracy, reliability and maintenance requirements. Manually operated batch slaking of quicklime (CaO) should be avoided unless protective clothing and equipment are provided. At small plants, for safety reasons the use of hydrated lime [Ca(OH)₂] over quicklime is recommended. Feed and slaking equipment shall be sized to handle a minimum of 150% of the peak sludge flow rate, including sludge that may need to be retreated due to pH decay. Duplicate units shall be provided.

3) Chemical Storage Facilities

Alkaline materials may be received in either bag or bulk form. Materials delivered in bags must be stored indoors and elevated above floor level. Bags should be multi-walled and moisture-proof. Dry bulk storage containers must be as airtight as practicable and shall contain a mechanical agitation mechanism. Storage facilities shall be sized to provide a minimum 30-day supply of alkaline materials. Adequate provisions shall be made to meet the applicable substantive and permitting requirements of 35 Ill. Adm. Code Subtitle B: Air Pollution.

f) Sludge Storage

Refer to Section 370.870 for general design considerations for sludge storage facilities. The design shall incorporate the following considerations for the storage of high pH stabilized sludge:

1) Liquid Sludge

Liquid high pH stabilized sludge shall be stored in a tank or vessel equipped with rapid sludge withdrawal mechanisms for sludge disposal or retreatment and may not be stored in a lagoon. Provision shall be made for adding alkaline material in the storage tank. Mixing equipment meeting the requirements of

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subsection (d)(2) above shall be provided in all storage tanks.

2) Dewatered Sludge

On-site storage of dewatered high pH stabilized sludge shall be limited to 30 days. Provisions shall be made for rapid retreatment or disposal of dewatered sludge stored on site in case of sludge pH decay.

3) Off-Site Storage

There shall be no off-site storage of high pH stabilized sludge unless the Agency has issued a permit for off-site storage.

g) Disposal

Methods and options for immediate sludge disposal should be used in order to reduce the on-site sludge inventory and the amount of sludge that must be retreated to reduce odors when sludge pH decay occurs. Where land application is used, the sludge must be incorporated into the soil on the day it is delivered to the site.

(Source: Added at 20 Ill. Reg. _____, effective _____)

Section 370.850 Sludge Pumps and Pipinga) Sludge Pumps1) Capacity

Pump capacities shall be adequate but not excessive. Provision for varying pump capacity is desirable. A rational basis of design shall be provided with the plan documents.

2) Duplicate Units

Duplicate units shall be provided at all installations.

3) Type

Plunger pumps, screw feed pumps or other types of pumps with demonstrated solids handling capability shall be provided for handling raw sludge. Where centrifugal pumps are used, a parallel positive displacement pump shall be provided as an alternate to pump heavy sludge concentrations, such as primary or thickened sludges, that may exceed the pumping head of the centrifugal pump.

4) Minimum Head

A minimum positive head of 24 inches shall be provided at the suction side of centrifugal type pumps and is desirable for all types of sludge pumps. Maximum suction lifts should not exceed 10 feet for plunger pumps.

5) Sampling Facilities

Unless sludge sampling facilities are otherwise provided, quick closing sampling valves shall be installed at the sludge pumps. The size of valve and piping should be at least 1 1/2 inches and terminate at a suitably sized sampling sink or floor drain.

b) Sludge Piping1) Size and Head

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Digested sludge withdrawal piping should have a minimum diameter of 8 inches for gravity withdrawal and 6 inches for pump suction and discharge lines. Where withdrawal is by gravity, the available head on the discharge pipe should be at least 4 feet and preferably more. Undigested sludge withdrawal piping shall be sized in accordance with Section 370.720(b)(3).

2) Slope and Flushing Requirements

Gravity piping should be laid on uniform grade and alignment. Slope on gravity discharge piping should not be less than 3 percent for primary sludges and all sludges thickened to greater than 2 percent solids. The slope on gravity discharge piping should not be less than 2 percent for aerobically digested sludge or waste activated sludge with less than 2 percent solids. Cleanouts shall be provided for all gravity sludge piping. Provisions shall be made for draining and flushing discharge lines. All sludge pipe shall be suitably located or otherwise adequately protected to prevent freezing.

3) Supports

Special consideration shall be given to the corrosion resistance and permanence of supporting systems for piping located inside the digestion tank.

(Source: Amended at 20 Ill. Reg. _____, effective _____)

Section 370.860 Sludge Dewatering

a) General

On-site sludge dewatering facilities shall be provided for all plants, although the following requirements may be reduced, if justified, with on-site liquid sludge storage facilities of approved off-site sludge disposal. ~~Bratage from beds or filtrate from dewatering units shall be returned to process.~~

1) Anaerobic Digestion Sludge Production

For purposes of calculating sludge handling and disposal needs, sludge production values from a two-stage anaerobic digestion process receiving primary and waste activated sludge shall be based on estimated--as-at-least-0-12-lbs/P-E/day-of-dry-solids with a maximum solids concentration of 5% without additional thickening. The solids production values, calculated on a dry weight basis, shall be based on the following values for the listed processes: A--production-value-of-0-09-lbs/P-E/day-shall be--used--for--primary--and--fixed-film-reactor-plants--Refer-to Section-370-175-977

- A) Primary plus waste activated sludge--at least 0.12 lbs/P.E./day;
B) Primary plus fixed film reactor sludge--at least 0.09 lbs/P.E./day.

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2) Aerobic Digestion Sludge Production

For purposes of calculating sludge handling and disposal needs, sludge production values from an aerobic digester receiving primary and waste activated sludge shall be based on estimated--as-at-least-0-16-lbs/P-E/day-of-dry-solids-with-a maximum solids concentration of 3% without additional thickening. A--production value-of-0-12-lbs/P-E/day-shall-be-used-for--primary--and--fixed-film-reactor-plants--Refer-to-Section-370-175-977. The solids production values, calculated on a dry weight basis, shall be based on the following values for the listed processes:

- A) Primary plus waste activated sludge--at least 0.16 lbs/P.E./day;
B) Primary plus fixed film reactor sludge--at least 0.12 lbs/P.E./day.

3) Production from Other Sludge Treatment Processes

For purposes of calculating sludge handling and disposal needs, sludge production values from other sludge treatment processes shall be determined by rational calculations in the basis of design. Refer to Section 370.520(b) for any new process determinations.

b) Sludge Drying Beds

1) Applicability

Sludge drying beds may be used for dewatering well digested sludge from either the anaerobic or aerobic process. Due to the large volume of sludge produced by the aerobic digestion process, consideration should be given to using a combination of dewatering systems or other means of ultimate sludge disposal.

2) Unit Sizing

Sludge drying bed area shall be calculated on a rational basis with the following items taken into account considered:

- A) The volume of wet sludge produced by existing and proposed processes.
B) Depth of wet sludge drawn to the drying beds. For design calculations purposes a maximum depth of 8 inches shall be utilized. For operational purposes, the depth of sludge placed on the drying bed may vary from the design depth based on the solids content and the type of digestion used.
C) Total digester volume and other wet sludge storage facilities.
D) Degree of sludge thickening provided after digestion.
E) The maximum drawing depth of sludge which can be removed from the digester or other sludge storage facilities without causing process or structural problems.
F) The time required on the bed to produce a removable cake. Adequate provision shall be made for sludge dewatering and/or sludge disposal facilities for those periods of time during which outside drying of sludge on beds is hindered by weather. For Illinois that season is considered to extend

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from early November through at least April.

- G) Capacities of auxiliary dewatering facilities.

3) Percolation Type Bed Components

A) Gravel
The lower course of gravel around the underdrains should be properly graded and should be 12 inches in depth, extending at least 6 inches above the top of the underdrains. It is desirable to place this in 2 or more layers. The top layer of at least 3 inches should consist of gravel 1/8 inch to 1/4 inch in size.

B) Sand

The top course should consist of at least 6 to 9 inches of clean, washed, coarse sand. The effective size of the sand should be in the range of 0.8 to 1.5 millimeters. The finished sand surface should be level.

C) Underdrains

Underdrains should be clay-pipe-or-concrete-drain-tile at least 4 inches in diameter laid with open joints. Perforated Stitcher-strength-perforated pipe may also be used. Underdrains should be spaced not more than 20 feet apart. Various pipe materials may be used, so long as they are sufficiently strong and are corrosion resistant.

D) Additional Dewatering Provisions.

Consideration shall be given to providing a means of decanting the supernatant of sludge placed on the sludge drying beds. More effective decanting of supernatant may be accomplished with polymer treatment of the sludge.

4) Walls

Walls should be water-tight and extend 18 inches above and at least 6 inches below the surface of the bed. Outer walls should be curved or extended at least 4 inches above the outside grade elevation to prevent soil from washing on to the beds.

5) Sludge Removal

Each bed shall be constructed so as to be readily and completely accessible to mechanical cleaning equipment. Concrete runways spaced to accommodate mechanical equipment shall be provided. Special attention should be given to assure adequate access to the areas adjacent to the sidewalls. Entrance ramps down to the level of the sand bed shall be provided. These ramps shall be high enough to eliminate the need for an entrance end wall for the sludge bed.

c) Sludge Lagoons for Dewatering

1) General

Lagoons as a means of disposing-of-or dewatering digested sludge will be permitted only upon proof that the character of the digested sludge and the design mode of operation are such that offensive odors will not result. Where sludge lagoons are permitted, adequate provisions shall be made for other sludge

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dewatering facilities or sludge disposal in the event of upset or failure of the sludge digestion process.

- 2) Location
Sludge lagoons shall be located as far as practicable from inhabited areas or areas likely to be inhabited during the lifetime of the structures.

3) Seal

Adequate provisions shall be made to seal the lagoon bottoms and embankments to prevent leaching into adjacent soils or groundwater. Refer to Section 370.920(d)(1)(A), (d)(2)(C) and (d)(2)(D).

4) Access

Provisions shall be made for sludge pumping or heavy equipment access for sludge removal from the lagoon.

d) Mechanical Dewatering Facilities

1) General

Provision shall be made to maintain sufficient continuity of service so that sludge may be dewatered without accumulation beyond storage capacity. The number of vacuum filters, centrifuges, filter presses, belt filters, or other mechanical dewatering facilities should be sufficient to dewater the sludge produced with the largest unit out of service. Unless other standby wet sludge facilities are available, adequate storage facilities of at least 4 days production volume shall be provided. Documentation must be submitted justifying the basis of design of mechanical dewatering facilities.

2) Water Supply Protection

The water supply for mechanical dewatering facilities shall meet the requirements of Section 370.550(b). Adequate-facilities shall-be-provided-to-condition--the-exhaust--air--so-that--it-pollution-control-objectives-are-met

3) Auxiliary Facilities for Vacuum Filters

Back-up vacuum and filtrate pumps shall be provided. It is permissible to have uninstalled back-up vacuum and filtrate pumps for every three or less vacuum filters, provided that the installed units can easily be removed and replaced. At least one filter media replacement unit shall be provided.

4) Ventilation

Adequate facilities shall be provided for ventilation of the dewatering area. The exhaust air should be properly conditioned to avoid odor nuisance. Ventilation shall be provided in accordance with Section 370.410(g)(6).

5) Chemical Handling Enclosures

Lime-mixing facilities should be completely enclosed to prevent the escape of lime dust. Chemical handling equipment should be automated to eliminate the manual lifting requirement. Refer to Section 370.560.

e) Drainage and Filtrate Disposal

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Drainage from beds or filtrate dewatering units shall be returned to the sewage treatment process at appropriate points and rates.

1) Other Dewatering or Disposal Facilities
If it is proposed to dewater or dispose of sludge by other methods, a detailed description of the process and design data shall accompany the plans. Refer to Section 370.520(b) for any new process determinations.

(Source: Amended at 20 Ill. Reg. _____, effective _____)

Section 370.870 Sludge Storage and Disposal

a) Storage

1) General

Sludge storage facilities shall be provided at all mechanical treatment plants, and may consist of any combination of drying beds, lagoons, separate tanks, additional volume in stabilization units, pad areas or other means to store either liquid or dried sludge. Drainage of supernatant from sludge storage facilities shall be returned to the sewage treatment process at appropriate points and rates. Refer to Section 370.860(b) and (c) for drying bed and lagoon design criteria, respectively.

2) Volume

Rational calculations justifying the number of days of storage based on the total sludge handling and disposal system shall be submitted. Refer to Sections 370.840(g) and 370.860(a) for anaerobically and aerobically digested sludge production values; values for other stabilization processes shall be justified on the basis of design. If land application is the only means of sludge disposal used at a treatment plant, a minimum of 150 days storage shall be provided, in order to account for inclement weather and cropping practices.

b) Disposal

1) Sanitary Landfilling

Sludge and sludge residues may be disposed of in Agency approved municipal solid waste landfill units ~~sanitary landfills~~ under the terms and conditions of permits issued by the Agency's Bureau of Land Division ~~Land Pollution Control~~. On-site landfilling shall be conducted in conformance with the design recommendations of the Bureau of Land and must be approved by the Agency's Bureau of Water.

2) Land Application Disposal

Specific design criteria for land application of sludge are set out in Design Criteria for Sludge Application on Land, 35 Ill. Adm. Code 391. Additional Operating Criteria may be obtained from applicable federal regulations. In order to assure compliance with the facility's effluent standards, alternative

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sludge disposal options to account for inclement weather and cropping practices are recommended. ~~Under favorable conditions sludge may be utilized as a soil conditioner for agricultural land. Important design considerations include but are not necessarily limited to: sludge stabilization process, sludge chemical make-up, local topography and hydrology, cropping practices, spreading and incorporation techniques, population density and odor control, local groundwater quality and usage. Some design guidance may be obtained from other Agency publications on this subject. Approvals for this disposal technique may be obtained on a case-by-case basis.~~

3) Sludge Lagoons

The use of lagoons for ultimate disposal of sludge is not recommended because of odor potential, area and volume required and possible long term problems from groundwater contamination. If a lagoon is proposed, a hydrogeologic survey must be performed to demonstrate the appropriateness of a disposal lagoon at the particular site. A groundwater monitoring program must be included in any sludge lagoon design. Refer to Section 370.860(c) for lagoon design criteria.

4) Other Disposal Methods

A detailed description of the technique and design data shall accompany the plans of any proposal to dispose of sludge by methods other than those specified above. Refer to Section 370.520(b) for any new process determinations.

(Source: Amended at 20 Ill. Reg. _____, effective _____)

SUBPART I: BIOLOGICAL TREATMENT

Section 370.900 Trickling Filters

a) General

1) Applicability

Trickling filters may be used for treatment of sewage amenable to treatment by aerobic biologic processes. Trickling filters shall be preceded by settling tanks equipped with scum and grease collecting devices, or other suitable pretreatment facilities.

2) Design Basis

Filters shall be designed so as to provide the required reduction in biochemical oxygen demand, ammonia nitrogen, or to properly condition the sewage for subsequent treatment processes.

3) Multiple Units

Multiple trickling filter units capable of independent operation are recommended for all plants and must be provided for those plants where the design average flow exceeds 100,000 gallons per

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10-cycle test using the same criteria. Slag media shall be free from iron. Manufactured media shall be resistant to ultraviolet degradation, disintegration, erosion, aging, all common acid and alkalies, organic compounds, and fungus and other biological attack. Such media shall be structurally capable of supporting a man's weight or a suitable access walkway shall be provided to allow for distributor maintenance.

- 2) Depth
The filter media shall have a minimum depth of 6 feet above the underdrains. For rock media filters (subsection (c)(3)(A)), only the top 7 feet of the volume of the filter shall be considered in BOD removal credit computations. For manufactured media filters see subsection (c)(3)(B).

- 3) Size and Grading of Media
 - A) Rock, Slag and Similar Media
i) Rock, slag and similar media shall not contain more than 5 percent by weight of pieces whose longest dimension is 3 times the least dimension.
ii) Media shall be free from thin elongated and flat pieces, dust, clay, sand, or fine material and shall conform to the following size and grading when mechanically graded over vibrating screen with square openings:
Passing 4 1/2 inch screen - 100% by weight
Retained on 3 inch screen - 95-100% by weight
Passing 2 inch screen - 0-2% by weight
Passing 1 inch screen - 0-1% by weight
 - B) Manufactured Media
i) Suitability of size, space, media configuration and depth will be evaluated on the basis of experience with installations handling similar wastes and loadings. To ensure sufficient void clearance, media with a specific surface area of no more than 30 square feet per cubic foot may be used for filters employed for carbonaceous reduction, and media with a specific surface area of no more than 45 square feet per cubic foot may be used for second stage ammonia reduction. See subsection (c)(1) for quality requirements.

- 4) Handling and Placing of Media
 - A) Material delivered to the filter site shall be stored on wood planks placed on other approved clean hard surfaced areas.
 - B) All material shall be rehandled at the filter site and no material shall be dumped directly into the filter. Crushed rock, slag and similar media shall be rescreened or forked at the filter site to remove all fines.
 - C) The such material shall be placed by hand to a depth of 12 inches above the tile underdrains and all material shall

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day. Plants not having multiple units shall include other provisions to assure continuity of treatment.

- b) Dosing Equipment
 - 1) Distribution
A) All hydraulic factors involving proper distribution of sewage on the filter should be carefully calculated and submitted with the basis of design.
B) The sewage may be distributed over the filter by rotary distributors or other suitable devices which will permit reasonably uniform distribution to the surface area. At design average flow, the deviation from calculated uniformly distributed volume per square foot of the filter surface shall not exceed plus or minus 10 percent at any point.
 - 2) Dosing and Recirculation
A) Sewage may be applied to the filters by siphons, pumps or by gravity discharge from preceding treatment units when suitable flow characteristics have been developed. Application of the sewage should be continuous except for low rate filters. A hydraulic system for recirculation shall be provided for new facilities and should be considered where existing trickling filter units are included in treatment plant upgrading.
B) The piping system, including dosing equipment and distributor, shall be designed to provide capacity for the peak hourly flow rate including recirculation rates determined under subsection (h).
 - 3) Distributor Head Requirements
For reaction type distributors, a minimum head of 24 inches between low water level in siphon chamber and center of arms is required. Similar allowances shall be made in design for added pumping head requirements where pumping to the reaction type distributor is used. The design shall include the head required at the center column for the full range of flows, taking into account all head losses from the center column back to the dosing facility at all water levels. Calculations shall be submitted to justify the basis of design.
 - 4) Clearance
A minimum clearance of 6 inches between media and distributor arms shall be provided. Refer to subsection (e)(4).
 - c) Media
 - 1) Quality
The media may be crushed rock, slag or specially manufactured material. The media shall be durable, resistant to spalling or flaking, and be relatively insoluble in sewage. The top 18 inches shall have a loss by the 20-cycle, sodium sulfate soundness test of not more than 10 percent, as prescribed by ASCE Manual of Engineering Practice, Number 13, the balance to pass a

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be carefully placed so as not to damage the underdrains. The remainder of the material may be placed by means of belt conveyors or equally effective methods approved by the engineer.

D)††† Manufactured media shall be handled and placed as recommended by the manufacturer and approved by the engineer.

E)††† Trucks, tractors, or other heavy equipment shall not be driven over the filter during or after construction.

d) Underdrainage System

1) Arrangement

Underdrains with semi-circular inverts or equivalent should be provided and the underdrainage system shall cover the entire floor of the filter. Inlet openings into the underdrains shall have an unsubmerged gross combined area equal to at least 15 percent of the surface area of the filter.

2) Slope

The underdrains shall have a minimum slope of 1 percent. Effluent channels shall be designed to produce a minimum velocity of 2 feet per second at design average flow ~~discharge~~ rate of application to the filter and shall have adequate capacity for the peak hourly flow rate including the required recirculation flows.

3) Flushing

Provision should be made for flushing the underdrains. In small filters, use of a peripheral head channel with vertical vents is acceptable for flushing purposes. Inspection facilities should be provided.

4) Ventilation Requirements for Underdrains

The underdrainage system, effluent channels, and effluent pipe should be designed to permit free passage of air. The size of drains, channels, and pipe should be such that not more than 50 percent of their cross-sectional area will be submerged under the design hydraulic loading. Consideration should be given in the design of the effluent channels to the possibility of increased hydraulic loading.

e) Special Features

1) Flooding

Provision shall be made in the design of conventional rock filter structures so that the media may be flooded.

2) Maintenance

All distribution devices, underdrains, channels and pipes shall be designed so that they may be properly maintained, flushed or drained.

3) Flow Measurement

Devices shall be provided to permit measurement of flow to the filter, and of recirculated flows.

4) Protection From Freezing

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Trickling filters shall be covered to protect from freezing, and to maintain operation and treatment efficiencies. The filter cover design shall be constructed of appropriate corrosion resistant materials and designed to allow operator access for maintenance, repair and replacement of the filter dosing equipment ~~in accordance with Section 370.1210(d)†††~~.

5) Ventilation of Covered Filters

Forced ventilation shall ~~should~~ be provided for covered trickling filters to insure adequate oxygen for process requirements. Windows or simple louvered mechanisms so arranged to insure air distribution throughout the enclosure shall be provided. The ventilation facilities shall be designed to allow operator control of air flow in accordance with outside temperature. Design computations showing the adequacy of air flow to satisfy process oxygen requirements shall be submitted. ~~Refer to--Section 370.1210(d)†††~~.

f) Two-Stage Filters

The foregoing standards also apply to second stage filters.

g) Special Applications

1) Roughing Filters

In some instances it is desirable to partially reduce the organic strength of wastewaters. In such cases trickling filters may be used for roughing treatment. Design parameters and contaminant removal efficiencies will be approved on a case-by-case basis. Refer to subsections (h)(2) and (h)(3).

2) Nitrifying Filters

Trickling filters may, under favorable conditions, be used as nitrification devices. Design parameters and contaminant removal efficiencies will be approved on a case-by-case basis. Refer to Section 370.1210(d)†††.

h) Efficiency

1) Single Stage, Settling Tank -- No Recirculation
Expected reduction of BOD of settled normal domestic wastewater by a single stage filter, packed with crushed rock, slag or similar material and with subsequent settling, shall be determined from Appendix F, Figure No. 3. In developing this curve, loading due to recirculated sewage has not been considered.

2) Single or Multi-Stage, Settling Tank -- Recirculation
Expected BOD removal efficiencies may also be determined by theoretical and empirical formula if accompanied by detailed explanation, particularly for roughing filters and for filters with recirculation. (Refer to Water Pollution Control Federation, WOP No. 8 or American Society of Civil Engineers Manual of Engineering Practice (MOEP), No. 36.)

3) Single or Multi-Stage, No Settling Tank -- Recirculation
Filters not followed by a settling tank and discharging into a subsequent treatment process shall not be credited with BOD removal

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efficiencies as in subsections (h)(1) and (h)(2) above. Expected performance in such cases, including filters packed with manufactured media, shall be determined from prototype testing pilot-plant and full-scale plant experience.

(Source: Amended at 20 Ill. Reg. _____, effective _____)

Section 370.910 Rotating Biological Contactors (Repealed)

a) General

1) Applicability

The Rotating Biological Contactor (RBC) process may be used where sewage is amenable to biological treatment. The process may be used to accomplish carbonaceous and/or nitrogenous oxygen demand reductions. Design standard operating data and experience for this process are not well established. Therefore, expected performance of RBC units shall be based upon experience at similar full-scale installations or thoroughly documented pilot testing with the particular wastewater.

2) Winter Protection

A) Wastewater temperature affects rotating contactor performance. Rotating contactors shall be covered to protect the biological growth from cold temperatures and the excessive loss of heat from wastewater to prevent a loss of process performance.

B) The enclosure shall be constructed of suitable corrosion resistant materials to minimize condensation. The enclosure should be adequately insulated. Enclosure design shall provide for operator and equipment access to the rotating contactors for maintenance, repair and replacement.

3) Ventilation for Process Air Requirements

Positive ventilation facilities shall be provided to supply adequate oxygen for process requirements. Windows or simple hinged mechanisms so arranged to insure air distribution throughout the enclosure structure shall be provided. The design of the ventilation facilities shall provide for operator control of ventilation air flow in accordance with outside seasonal temperatures. Design computations showing the adequacy of air flow to satisfy the process oxygen needs shall be submitted.

b) Required Pretreatment and Post-Settling

The RBC process must be preceded by effective settling tanks equipped with skum and grease collecting devices unless substantial justification is submitted for other pretreatment devices which provide for effective removal of gravity debris and excessive oil or grease prior to the RBC units. Bar screening is not suitable as the sole means of pretreatment. Post-settling or RBC flow is required prior to the treatment plant discharge and shall be designed in

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accordance with Subpart G-

c) Unit Sizing

1) Unit sizing shall be based on experience at similar full-scale installations or thoroughly documented prototype pilot testing with the particular wastewater in determining design loading rates expressed in units of volume per day per unit area of media covered by biological growth. The following parameters must be considered:

A) Design flow rate and influent waste strength

B) Percentage of BOD to be removed

C) Media arrangement including number of stages and unit area in each stage

D) Rotational velocity of the media and horsepower requirements for each stage

E) Retention time within the tank containing the media

F) Wastewater temperature

G) Percentage of influent BOD which is soluble

2) In addition to the above parameters loading rates for nitrification will depend upon influent total Kjeldahl nitrogen (TKN), pH and the allowable effluent ammonia-nitrogen concentration. Refer to Section 370.910(d).

d) Design Safety Factor and Process Aeration Capability

1) Design Safety Factor

Effluent concentrations of BOD and ammonia-nitrogen from the RBC process are affected by diurnal load variations. Therefore, it may be necessary to increase the design surface area proportional to the organic and ammonia-nitrogen diurnal peaking rates to meet effluent limitations. An alternative is to provide flow equalization sufficient to insure process performance within the required effluent limitations.

2) Process Aeration Capability

The process design shall provide for maintaining a minimum dissolved oxygen concentration of 2.0 mg/l throughout the liquor in the RBC basins under maximum warm weather design load conditions. The specifications shall provide for testing of the completed RBC facilities to determine that the expected performance is met including the adequacy of the ventilation facilities provided under subsection (a)(3).

e) Arrangement of Units

1) Continuity of Operation

The design arrangement of the RBC units shall provide flexibility of operational mode to assure minimum effluent deterioration when one or more shafts are out of service.

2) Access to Units

The design arrangement of the RBC units shall provide for ease of access for operator maintenance and component part replacement including media and shafts. Refer to subsection (a)(2).

f) Media Protection and Quality

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~~RBE-media shall be protected from ultraviolet degradation and be resistant to disinfection, erosion, aging, air common acids and alkalis, organic compounds, and fungus and other biological attack.~~

(Source: Repealed at 20 Ill. Reg. _____, effective _____)

Section 370.920 Activated Sludge

a) General

1) Applicability

A) Biodegradable Wastes

The activated sludge process, and its various modifications, may be used to treat wastewater which is amenable to biological treatment. Approval of new activated sludge plants shall be limited to those plants where the design average flow capacity exceeds 0.25 mgd.

B) Operation Control Requirements

The activated sludge process requires close attention and competent operating supervision. Facilities and apparatuses for routine control and control tests shall be provided at all activated sludge plants. These requirements shall be considered when proposing this type of treatment.

C) Energy Requirements

This process requires major energy usage to meet aeration demands. Energy costs and potential mandatory emergency public power reduction events, in relation to critical water quality conditions, must be carefully evaluated. Capability of energy usage phasedown while still maintaining process viability, both under normal and emergency energy availability conditions, must be included in the activated sludge design.

2) Specific Process Selection

The activated sludge process and its several modifications may be employed to accomplish varied degrees of removal of suspended solids and reduction of 5-day BOD and nitrogenous oxygen demand. Choice of the process most applicable will be influenced by the proposed plant size, type of waste to be treated, treatability of waste, degree and consistency of treatment required and local factors. All designs shall provide for flexibility in operation. All plants shall be designed to operate in at least two various modes.

3) Winter Protection

Units shall be protected against freezing. Maximum utilization of earthen bank insulation shall be considered.

4) Process Efficiency

The activated sludge process designed within the organic and

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hydraulic loading limits of these standards, treating normal domestic wastewaters unaffected by surge loadings, long term peak flows, or industrial wastes, may be expected to meet an effluent standard of 20 mg/l CBOD[5] or BOD[5] and 25 mg/l suspended solids ~~20/25-mg/l-BOD/5-suspended-solids~~ when computed on a 30-day monthly average basis. Those installations which are anticipated to be subject to surge loadings, long term peak flows or industrial wastes shall have appropriate design modifications in order to assure consistent effluent quality.

b) Preliminary Treatment

Effective removal of grit, debris, excessive oil and grease and screening of solids shall be accomplished prior to the activated sludge process. Where primary settling does not precede the activated sludge process, screening with 1/2 inch or smaller clear opening is recommended in order to prevent plugging of return sludge piping and pumps.

c) Primary Treatment Bypass

When primary settling is used, provision shall also be made for discharging raw sewage directly to the aeration tanks following preliminary treatment.

d) Process Organic Loadings

The aeration tank capacities and permissible loadings for the several adaptations of the processes shown in the table shall be used.

Permissible Organic Loading
For The Activated Sludge Processes
For Normal Domestic Sewage*

Process Mode	Plant Design Average Flow Size	Aeration Tank Organic Loading, lbs BOD[5]/day/ft. 1000 cu. ft.
Conventional, Complete Mix, Contact Stabilization,** Step Aeration, Tapered Aeration	Less than 1 mgd Design-flow 0.25-1-mgd Design-flow 1 mgd or greater	35 50
Extended Aeration Single Stage Nitrification	For-Air Design-flows	15***

* Where significant industrial wastes will be tributary to the process, design modification shall be made as required by subsection (a)(4), to

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assure compliance with effluent standards.

*** Total aeration capacity includes both contact and reaeration capacities.

*** Detention time at Design Average Flow for extended aeration shall be 24 hours. This requirement may govern tank capacity. Detention time for single stage activated sludge for nitrification is governed by Section 370.1210(C)(3)(B).

e) Aeration Tanks

1) Aeration Tanks

Multiple tanks shall be provided. Tanks shall be designed so that each tank may be dewatered and operated independently.

2) Tank Geometry

The dimensions of each independent mixed liquor aeration tank or return sludge reaeration tank shall be such as to maintain effective mixing and utilization of air. Liquid depths should not be less than 10 feet. The shape of the tank, the location of the inlet and outlet and the installation of aeration equipment shall provide for positive control of short-circuiting through the tank.

3) Freeboard

All aeration tanks shall have a freeboard of not less than 18 inches. Greater heights are desirable. Suitable water spray systems or other approved means of froth and foam control shall be provided if foaming is anticipated.

4) Inlet and Outlet Control

Inlets and outlets for each aeration tank unit shall be suitably equipped with valves, gates, stop plates, weirs, or other devices to permit balancing, proportioning, and measuring the flow to and from any unit and to maintain reasonably constant liquid level. The hydraulic elements of the system shall permit the design peak flow maximum instantaneous hydraulic load to be carried with any single aeration tank out of service.

5) Channels

Channels and pipes carrying liquids with solids in suspension shall be designed to maintain self-cleansing velocities or shall be agitated to keep such solids in suspension at all design rates of flow. Adequate provisions should be made to drain segments of channels which are not being used due to alternate flow patterns.

f) Aeration Equipment

1) General

A) Aeration requirements depend upon mixing energy, BOD loading, degree of treatment, oxygen uptake rate, mixed liquor suspended solids concentration and sludge age. Aeration equipment shall be capable of maintaining a dissolved oxygen concentration of 2.0 mg/l in the aeration tanks under all design loads. Energy transfer shall be sufficient to maintain the mixed liquor solids in

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suspension.

B) In the case of nitrification, the oxygen requirement for oxidizing ammonia must be added to the above requirement for carbonaceous BOD removal. The nitrogen oxygen demand (NOD) shall be taken as 4.6 times the diurnal peak ammonia (as nitrogen) per content of the influent. In addition, the oxygen demands due to recycle flows such as sludge processing, return from excess flow first flush storage and other similar flows, must be taken into account. ~~Heat treatment liquor supernatant, vacuum filtrate, etc. must be considered due to the high concentrations of BOD and ammonia per associated with such flows.~~

C) Careful consideration should be given to maximizing oxygen utilization per unit power input. Unless flow equalization is provided, the aeration system should be designed to match the diurnal organic load variation while economizing on power input.

2) Diffused Air Systems

A) Except as noted in subsection (f)(2)(B), ~~except where~~ below, normal aeration tank air requirements shall be based upon a design figure of 1,500 cu. ft. of air supplied/lb. of BOD(5) applied to the aeration tanks. This design figure assumes that the equipment is capable of transferring 1.0 lb. of oxygen to the aeration tank contents/lb. of BOD(5) applied to the aeration tank. ~~With the exception of for the extended aeration process, air requirements shall be based on a design figure of 2250 cu. ft. of air supplied per lb. of BOD(5) applied to the aeration tanks to account for oxygen demand for endogenous and ammonia (as nitrogen) for normal strength waste. Refer to Section 370.1210(C) for nitrification requirements. For which the value shall be 1.5 to include endogenous respiration. Refer to Section 370.1210(C) for nitrification requirements.~~

B) Air requirements may be determined based upon transferring 1.0 lb. oxygen/lb. of applied oxygen demand, as determined by subsection (f)(1) above, using standard equations incorporating the factors listed below. ~~of applied BOD(5) taking into account the actual field oxygen transfer efficiency of the equipment specified. When using this design technique is used, the field oxygen transfer efficiency of the equipment shall be included in the specifications, and the detailed design computations shall be contained in the basis of design.~~

- i) Tank depth;
- ii) Alpha factor of the waste;
- iii) Beta factor of the waste;
- iv) Documented aeration device transfer efficiency;

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- V) Minimum aeration tank dissolved oxygen concentrations;
 vi) Critical wastewater temperature;
 vii) Plant altitude.

C) In the absence of experimentally determined alpha and beta factors for the design described in subsection (f)(2)(B) above, wastewater transfer efficiency shall be assumed to be no more than 50% of clean water efficiency for plants treating primarily (90% or greater) domestic sewage. Treatment plants whose waste contains higher percentages of industrial wastes shall use a correspondingly lower percentage of clean water efficiency and shall submit calculations to justify such a percentage. The design wastewater oxygen transfer efficiency of the equipment shall be included in the specifications.

D) The specified capacity of blowers or air compressors, particularly centrifugal blowers, should take into account that the air intake temperature may reach 115° F or higher and the pressure may be less than normal. The specified capacity of the motor drive should also take into account that the intake air may be -20° F or less and may require oversizing of the motor or a means of reducing the rate of air delivery to prevent overheating or damage to the motor.

E) The blowers shall be provided in multiple units, so arranged and in such capacities as to meet the maximum total air demand with the single largest unit out of service. The design shall also provide for varying the volume of air delivered in proportion to the load demand of the plant.

F) The air diffusion piping and diffuser system shall be capable of delivering 200 percent of the design normal air requirements. Air piping systems should be designed such that the friction head loss from the blower outlet (or silencer outlet where used) to the diffuser inlet does not exceed 0.5 psi at 100 percent of design air requirements at average operating conditions for temperature and pressure.

G) The spacing of diffusers should be in accordance with the oxygenation requirements through the length of the channel or tank, and should be designed to facilitate adjustments of their spacing without major revision to air header piping. Diffusers in any single assembly shall have substantially uniform pressure loss.

H) Individual assembly units of diffusers shall be equipped with control valves, preferably with indicator markings for throttling and for complete shut off. The arrangement of diffusers shall also permit their removal for inspection, maintenance and replacement without dewatering the tank and without shutting off the air supply in the tank, unless the dewatered aeration basins are no more than 25% less than 15% of the total aeration basin capacity. Total aeration basin

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Capacity shall include the basins in both stages of a two-stage activated sludge process.

I) Air filters shall be provided in numbers, arrangement, and capacities to furnish at all times an air supply sufficiently free from dust to prevent clogging of the diffuser system used.

J) Mechanical Aeration Systems

A) Oxygen requirements shall be determined in accordance with subsections (f)(2)(B) and (f)(2)(C) above.

B) Oxygen transfer performance. The mechanism and drive unit shall be designed for the expected conditions in the aeration tank in terms of the power performance. Certified testing shall verify mechanical aerator performance. The design field oxygen transfer efficiency of the equipment shall be included in the specifications, and the detailed design computations shall be contained in the basis of design.

C) The mechanical aerators shall be provided in multiple units, so arranged and in such capacities as to maintain all biological solids in suspension, meet maximum oxygen demand and maintain process performance with the largest unit out of service. Design Requirements

The design requirements of a mechanical aeration system shall accomplish the following: maintain a minimum of 3.0 mg/l of dissolved oxygen in the mixed liquor at all times throughout the tank or basin; maintain all biological solids in suspension; meet maximum oxygen demand; and maintain process performance with the largest unit out of service; and provide provision shall be made for varying the amount of oxygen transferred in proportion to the load demand on the plant.

D) Winter protection. Due to high heat loss, the mechanism as well as subsequent treatment units shall be protected from freezing.

E) Motors, gear housing, bearings and grease fittings shall be easily accessible and protected from inundation and spray as necessary for proper functioning of the unit.

J) Return Sludge Equipment

1) Return Sludge Rate
 The rate of sludge return, expressed as a percentage of design average design flow of sewage, shall be variable between limits of 15 and 100 percent.

2) Return Sludge Pumps

A) If motor driven return sludge pumps are used, the maximum return sludge capacity shall be obtained with the largest pump out of service. The rate of sludge return shall be varied by such means as of variable speed motors or drives.

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multiple constant speed pumps, or telescoping valves. A positive head should be provided on pump suction. Pumps shall be capable of passing spheres of at least 3 inches in diameter. Pump suction and discharge openings shall be at least 4 inches in diameter.

- B) If air lift pumps are used for returning sludge from each settling tank, no standby unit shall be required provided that the design of the air lifts is such as to facilitate their rapid and easy cleaning. Air lifts should be at least 3 inches in diameter and provided with adjustable air valving to permit flow control in accordance with subsection (g)(1) above ¶¶44.

3) Return Sludge Piping

Suction and discharge piping should be at least 4 inches in diameter and should be designed to maintain a velocity of not less than 2 feet per second when return sludge facilities are operating at normal return sludge rates. Suitable devices for observing, measuring, sampling and controlling return activated sludge flow from each settling tank shall be provided.

4) Waste Sludge Control

Waste sludge control facilities should have a maximum capacity of not less than 25 percent of the average rate of sewage flow and function satisfactorily at rates of 0.5 percent of average sewage flow. Means for observing, measuring, sampling and controlling waste activated sludge flow shall be provided. Waste sludge may be discharged to the primary settling tank, concentrator or thickening tank, sludge digestion tank, vacuum filters, or any practical combination of these units. Refer to Sections 370.820 and 370.710(b)(1)(A).

(Source: Amended at 20 Ill. Reg. _____, effective _____)

Section 370.930 Waste Stabilization Ponds and Aerated Lagoons

a) Supplement To Engineer's Report

- 1) The engineer's report shall contain pertinent information on location, geology, soil conditions, area for expansion, and any other factors that will affect the feasibility and acceptability of the proposed treatment.

2) Supplementary Field Survey Data

The following information must be submitted in addition to that required in Section 370.111:

- A) The location and direction of all residences, commercial development, and water supplies within 1/2 mile of the proposed pond.
B) Soil borings to determine surface and subsurface soil characteristics of the immediate area and their effect on

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the construction and operation of a pond located on the site.

- C) Data demonstrating anticipated percolation rates at the elevation of the proposed pond bottom.
D) A description, including maps showing elevations and contours of the site and adjacent area suitable for expansion.
E) Sulfate content of the water supply.
F) Identification of the location, depth and discharge point of any field tile in the immediate area of the proposed site.

b) Location

1) Distance From Habitation

A pond site should be as far as practicable from habitation or any area which may be built up within a reasonable future period.

2) Prevailing Winds

If practicable, ponds should be located so that local prevailing winds will be in the direction of uninhabited areas. Preference should be given sites which will permit an unobstructed wind sweep across the ponds, especially in the direction of the local prevailing winds.

3) Surface Runoff

Adequate provisions shall be made to divert storm water around the ponds and otherwise protect pond embankments.

4) Ground Water Contamination

The requirements of the Illinois Groundwater Protection Act [415 ILCS 55] shall be taken into account in the siting of ponds. Ponds should not be located proximate to water supplies and other facilities subject to contamination or located in areas of porous soils and fissured rock formations. If conditions dictate using such a site, then the potential for and the means necessary to combat groundwater contamination shall be critically evaluated in the engineer's report. In such locations, the Agency will require groundwater monitoring wells.

5) Geology

Ponds shall not be located in areas subject to sink holes and mine subsidence. Soil borings and tests to determine the characteristics of surface soil and subsoil shall be made a part of preliminary pond site selection surveys. Gravel and limestone areas should be avoided; however, where conditions dictate locating ponds in such areas and where the minimum separation between the pond bottom and gravel or limestone will be less than 10 feet, the Agency shall be contacted about the necessary precautions.

c) Basis Of Design

1) Organic Loading

A) Waste Stabilization Ponds

The organic loading on each cell shall not exceed the loadings listed below. If more accurate design information

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for the particular type waste is not submitted and supported by the engineer, subsequent cells shall be sized for an organic loading of 25% of each preceding cell.

- i) North of Illinois Highway 116 (Pontiac) 22 lbs. BOD per acre per day.
- ii) Between Illinois Highway 116 and U.S. Highway 50, 26 lbs. BOD per acre per day.
- iii) South of U.S. Highway 50 (Salem-Carlyle) 30 lbs. BOD per acre per day.

B) Aerated Lagoons

The organic loading for aerated lagoons shall not exceed 0.5 lb. BOD[5] day per 1,000 cu. ft. first cell nor 0.3 lb. BOD[5] day per 1,000 cu. ft. on any subsequent cells. If more accurate design information for the particular type waste is not submitted and supported by the engineer, the second and third cells shall be sized for an organic loading of 25% of each preceding cell.

2) Depth

A) Waste Stabilization Ponds

The minimum operating liquid depth for waste stabilization ponds should be 2 feet. The maximum operating liquid depth shall be based on design storage requirements and shall not be less than 5 feet.

B) Aerated Lagoons

The design water depth for aerated lagoons should be 10" to 15 feet. This depth limitation may be altered depending on the aeration equipment, waste strength, climatic and geological conditions.

3) Aeration Requirements For Aerated Lagoons

A) Aeration systems shall be designed to provide, with the largest unit out of service, a minimum of 1,500 cu. ft. of air/lb. of BOD[5] in the raw waste (1.5 lbs. of oxygen/lb. of BOD[5] plus oxygen required to oxidize the ammonia present in the raw waste). The aeration equipment shall be located to ensure proper mixing and distribution of oxygen in proportion to oxygen demand in multiple cells. Splash type aerators with motors above the water surface may not be used. The aeration capability must be distributed throughout the cells in proportion to the calculated BOD loading on each cell. Additional aeration shall be provided as required to ensure proper mixing of floating type aerators with not be permitted.

B) Where hose type diffusers are used, the holes shall be of sufficient size to prevent plugging by dissolved solids in sludge.

4) Multiple Cells

A minimum of two cells to be operated in series or parallel should be provided for all waste stabilization ponds when they

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are utilized as a part of the primary and secondary treatment process. The number of cells required for aerated lagoons are dependent upon the degree of treatment required. Refer to subsection (c)(6).

5) Pond Shape

The shape of all primary cells should be such that there are no narrow or elongated portions. Round, square, or rectangular ponds with a length not exceeding 3 times the width are considered most desirable. No islands, peninsulas, or coves should be permitted. Dikes should be rounded at corners to minimize accumulations of floating materials.

6) Solids Removal

All lagoon systems shall include effective solids removal facilities. Design criteria for acceptable solids removal facilities are contained in Subpart K. Other solids removal facilities may be approved in accordance with Section 370.520(b).

d) Construction Details

1) Embankments and Dikes

A) Material

Embankments and dikes shall be constructed of relatively impervious materials and compacted to at least 90% Standard Proctor density sufficiently to form a stable structure. Vegetation and other unsuitable material shall be removed from the area upon which the embankment is to be placed.

B) Top Width

The minimum embankment top width should be 8 feet to permit access of maintenance vehicles. Lesser top widths will be considered for very small installations.

C) Maximum Embankment Slopes

i) Inner Slopes:

3 horizontal to 1 vertical.

ii) Outer Slopes:

3 horizontal to 1 vertical.

D) Minimum Embankment Slopes

i) Inner Slopes:

4 horizontal to 1 vertical. Flatter slopes are sometimes specified for larger installations because of wave action but have the disadvantage of added shallow areas conducive to emergent vegetation.

ii) Outer Slopes:

Outer slopes shall be sufficient to prevent surface runoff from entering the ponds.

E) Freeboard

Minimum freeboard shall be 3 feet except for very small installations 2 feet may be acceptable.

F) Erosion Control Requirements

For effective erosion control on the lagoon embankments, both seeding and riprap (or acceptable alternate) are

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required.

i) Seeding Requirements

Embankments shall be seeded from the outside toe to 1 foot above the high water line on the dikes, measured on the slope. Perennial type, low growing, spreading grasses that withstand erosion and can be kept mowed are most satisfactory for seeding of embankments. In general, alfalfa and other long rooted crops should not be used in seeding, since the roots of this type plant are apt to impair the water holding efficiency of the dikes. The County Agricultural Extension Agent can usually advise as to hardy, locally suited permanent grasses which would be satisfactory for embankment seeding.

ii) Riprap Requirements

Riprap (or acceptable alternate) shall be placed on the inner slope of the embankments from 1 foot above the high water mark to 1 foot below the low water level. Riprap shall be comprised of a two-layer system consisting of a minimum 4-inch layer of coarse aggregate that meets the Illinois Department of Transportation (IDOT) Standard Specification for Road and Bridge Construction adopted July 1, 1988 for the gradations in the range of CA-6 through CA-10 and a minimum 12-inch layer of stone. The rock layer shall consist of evenly graded material with a maximum weight of 150 pounds per piece and shall meet the IDOT gradations for rock of either RR-3 or RR-4.

2) Pond Bottom

A) Uniformity

Finished elevations shall not be more than 3 inches from the average elevation of the bottom. Shallow or feathering fringe areas usually result in locally unsatisfactory conditions.

B) Vegetation

The bottom shall be cleared of vegetation and debris. Organic material thus removed shall not be used in the dike core construction. However, suitable topsoil relatively free of debris may be used as cover material on the outer slopes of the embankment.

C) Soil Formation

Soil used in constructing the pond bottom (not including the seal) shall be relatively incompressible and tight. Porous topsoil shall be removed. Porous areas, such as gravel or sandy pockets, shall be removed and replaced with well compacted clay. The entire bottom shall be compacted at or up to 4% above the optimum water content to at least 90% Standard Proctor density. The soil formation or structure of

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the bottom should be relatively tight to avoid excessive liquid loss due to percolation or seepage. Soil boring and tests to determine the characteristics of surface soil and subsoil shall be made as part of preliminary surveys to select pond sites. Gravel and limestone areas must be avoided. Refer to subsection (b)(5).

D) Seal Percolation

The pond bottom and embankments shall be sealed such that seepage loss through the seal is as low as possible. Seals consisting of soils, bentonite or synthetic liners may be used, provided that the permeability, durability and integrity of the proposed material is demonstrated for anticipated conditions. The results of a testing program that substantiates the adequacy of the proposed seal shall be incorporated into or accompany the engineering report. Standard ASTM procedures or similar accepted testing methods shall be used for all tests. The design shall provide for maintenance of a satisfactory water level in the ponds. The following shall be provided as necessary, to insure an adequate seal:

i) A seal consisting of soil materials shall have a thickness of at least 24 inches and a permeability of less than 1×10^{-7} cm per second. Provision shall be made in the specifications for demonstrating the permeability of the seal after completion of construction and prior to filling the pond. Removal of porous topsoil and proper compaction of the subsoil to improve the water holding characteristics of the bottom. ii) For a seal that consists of a synthetic liner, seepage loss through the liner shall not exceed a quantity equivalent to seepage loss through a soil seal as described above. Removal of porous areas, as gravel or sandy pockets, and replacement with well compacted clay.

iii) Specifications for sealing of the wetted area with a clay blanket, bentonite or other sealing material as required to obtain a good seal.

iv) Specifications for mandatory field supervision of the construction of the pond seal.

E) Prefilling

Prefilling the pond after completion of testing is recommended in order to protect the seal from weed growth, to prevent drying and cracking and to reduce odor during initial operation. The pond dikes must be completely prepared as described in subsection (d)(1)(F). Synthetic liners shall be protected from damage during installation and filling.

3) Influent Lines

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A) Material

Any generally accepted material for underground sewer construction will be given consideration for the influent line to the pond. The material selected should be adapted to local conditions. Special consideration must be given to the character of the wastes, possibility of septicity, exceptionally heavy external loadings, abrasion, the necessity of reducing the number of joints, soft foundations, and similar problems.

B) Manholes

A readily accessible manhole shall be installed at the terminus of the trunk sewer or the force main, unless the force main discharges directly to the lagoon as described in subsection (d)(3)(H). The manhole and shall be located as close to the dike as topography permits and its invert should be at least 6 inches above the maximum operating level of the pond to provide sufficient hydraulic head without surcharging the manhole. Surcharging of the sewer upstream from the inlet manhole is not permitted.

C) Grade

i) Influent line can be placed at zero grade and should be located along the bottom of the pond so that the top of the pipe is just below the average elevation of the pond bottom. The pipe shall have adequate seal below it.

ii) The laying of the influent pipe on the surface of the pond bottom is prohibited.

D) Point of Discharge

Influent lines to the primary cell should terminate at approximately the third point farthest from the outlet structure. For interconnecting piping to secondary cells refer to subsection (d)(4)(B).

E) Flow Distribution

Flow distribution structures shall be designed to effectively split hydraulic and organic loads proportionally to primary cells. Refer to Section 370.520(f).

F) Submerged Inlets

Submerged inlet lines shall discharge horizontally into a shallow, saucer-shaped depression which should extend below the pond bottom not more than the diameter of the influent pipe plus 1 foot.

G) Discharge Apron

The end of the discharge line should rest on a suitable concrete apron with a minimum size of 2 feet square.

H) Force Mains

Force mains discharging directly to lagoons are permitted if the force main has a freefall discharge into the lagoon and is not turned upward at the point of discharge. The point

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of discharge shall be at approximately the third point farthest from the outlet structure and the pipe shall be sloped for drainage into the lagoon to avoid freezing.

1) Anti-Seep Collars

Anti-seep collars shall be used on all piping passing through or under the lagoon embankments.

4) Outlet Structures and Interconnecting Piping

A) Outlet Structure

i) Outlet structures shall be designed to allow the operating level of the pond to be adjusted to permit operation at depths of 2 feet to the maximum depth. ~~should consist of a manhole or box equipped with multiple-valved pond drawoff lines or an adjustable overflow device so that the liquid level of the pond can be adjusted to permit operation at depths of 2 feet to the maximum depth.~~ The design shall also allow effluent to be drawn from various depths below all operating levels. All structures and devices such as weirs, gates and valves ~~the multiple valves or adjustable overflow device~~ shall be watertight and capable of being easily adjusted by the operator without the need of additional mechanical equipment. Wooden stop-planks are not acceptable for level control.

ii) Drawoff lines should not be located any lower than ~~the lowest of the drawoff lines to such structure should be~~ 12 inches off the bottom to control eroding velocities and avoid pickup of bottom deposits.

iii) A locking device should be provided to prevent unauthorized access to the level control facilities.

iv) When possible, the outlet structure should be located on the windward side to prevent short circuiting. The outlet structure shall be properly baffled to prevent the discharge of floating material.

v) Consideration must be given in the design of all structures to protect against freezing or ice damage under winter conditions.

B) Interconnecting Piping and Unit Bypass

i) Interconnecting piping and overflows should be constructed of materials that will withstand damage during construction and operation, giving special consideration to damage that may occur during completion of embankments and damage to shallow piping ~~of cast-iron pipe or corrugated metal pipe of ample size.~~ Piping shall be sized to allow transfer of maximum flows without raising the lagoon water level by more than 6 inches in the upstream cell. In no case shall interconnecting pipe be less than 8 inches in

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diameter. Interconnecting piping between cells should be valved or provided with other arrangements to regulate flow between structures and permit flexible depth control.

- ii) The interconnecting pipe to the secondary cell should discharge horizontally near the lagoon bottom to minimize need for erosion control measures and should be located as near the dividing dike as construction permits

- iii) Piping and valves shall be provided so that each cell can be rated independently of any other cell, and so that no need for independent cell watering. independently can be completely dewatered.

- C) Anti-Sleep Collars
Anti-sleep collars shall be used on all interconnecting and outlet piping passing through or under the lagoon embankments.

- 5) Miscellaneous
A) Fencing
The pond area shall be enclosed with a suitable fence to preclude livestock and discourage trespassing. A vehicle access gate of sufficient width to accommodate mowing equipment shall be provided. All access gates shall be provided with locks.

- B) Warning Signs
Appropriate signs should be provided along the fence around the pond to designate the nature of the facility and advise against trespassing.

- C) Flow Measurement, Sampling and Level Gauge
Provisions for flow measurement and sampling shall be provided on the inlet and outlet. Pond level gauges shall be provided. The NPDES permit monitoring requirements for the facility shall be taken into account. Elapsed time meters on pumps or calibrated weirs may be used as flow measurement devices for lagoons.

- D) Sludge Removal
When an existing lagoon is to be upgraded, the project design shall provide for removal of any sludge accumulation in the existing lagoon. The sludge removed shall be disposed of in accordance with IPCB regulations.

(Source: Amended at 20 Ill. Reg. _____, effective _____)

Section 370.940 Intermittent Sand Filtration for Secondary Treatment

- a) Applicability

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Use of the intermittent sand filter for secondary treatment is generally limited to weak to normal strength wastewaters which are amenable to biological treatment. Cold weather operational problems may preclude the use of this process unless the influent temperature to the filter is adequate to allow efficient filter operation necessary to meet the applicable effluent standards.

- b) Pretreatment requirements
Wastewaters applied to intermittent sand filters must be substantially free of grit, debris, oil and grease, floating and suspended materials, and components which inhibit biological processes and cause rapid clogging of the filter. Special consideration shall be given to the design of preceding treatment units, including dosing facilities, to limit heat loss during winter operation.

- c) Multiple Units
Intermittent sand filters shall be provided in multiple units, designed for independent operation and maintenance.

- d) Location
Intermittent sand filters treating septic tank or primary effluent should be restricted to relatively isolated locations or otherwise modified in order to minimize odor nuisances.

- e) Recirculation
Recirculation of filter effluent may be practiced in order to attenuate and equalize organic and hydraulic loads to the filter, and improve unit process efficiency, control odors, and improve day-to-day reliability.

- 1) Rate
A recirculation rate of up to 300% of the settled sewage load to the filter may be provided.

- 2) Variability
The capability of varying the recirculation rate allows greater process control and optimization of process efficiency. This feature shall be included where recirculation is provided.

- f) Dosing
1) Dosing Volumes
The dosing facilities shall be designed for a capacity of 2,500 gallons per 1,000 sq. ft. of filter bed to be dosed at any given time.

- 2) Dosing Rates for Siphons or Pumps Siphon-or-Pump Capacity
Siphons (at minimum head) or pumps shall have a discharge capacity at least 100% in excess of the maximum rate of inflow to the dosing tank, including recirculation, and at average head, at least 90 gallons per minute per 1,000 square feet.

- 3) Discharge Line Capacity
The discharge lines to the beds shall have sufficient capacity to permit the full rated discharge of the siphons or pumps.

- g) Construction Details

- 1) Earth Base

The earth base of the filters shall be sloped to the underdrains.

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2) Underdrains

The sand filter shall be provided with open-joint or perforated pipe underdrains. They should be sloped to the outlet and spaced not to exceed 10 foot centers. Vertical riser vents shall be provided at both ends of each underdrain pipe and shall be located as not to be overtopped at maximum dosing depth.

3) Media

A) Gravel Base

Clean graded gravel, preferably placed in at least three layers, should be placed around the underdrains and to a depth of at least 6 inches over the top of the underdrains. Crushed stone may not be used in lieu of gravel. Suggested gradings for the three layers are:

1 1/2" to 3/4", 3/4" to 1/4", 1/4" to 1/8".

B) Sand

At least 24 inches of clean washed sand shall be provided. Sand shall be durable and relatively insoluble in sewage. Clay content shall be less than 1% by weight. The effective size shall be 0.3 ϕ 25 to 1.0 millimeter (mm). The uniformity coefficient shall not be greater than 3.5.

4) Splash Slabs

Splash slabs shall be provided at each point of discharge to the filter. A means of dissipating the energy of the discharge velocity shall be provided around the periphery of the splash slab.

5) Curbs

Provision shall be made to prevent soil and surface runoff from entering the filter area. Curbs should be high enough to hold the maximum dose and provide adequate freeboard.

6) Distribution System

A) Arrangement

Provision shall be made for even distribution of the flow on the filter surface. If troughs or piping are used, they shall be so located that the maximum lateral travel of the flow on the media surface is not more than 20 feet.

B) Drains

Troughs, discharge piping or other distribution equipment shall be sloped to drain to prevent freezing.

h) Loading Rates

The loading rates shall be based on the raw sewage flow and organic strength. The following loading rates shall not be exceeded:

Raw Waste Strength (BOD(5) mg/l)	Dose Rate (gals./ft.(2)/day)
100 to 200	3
200 to 300	2

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above 300 _____ 1

(Source: Amended at 20 Ill. Reg. _____, effective _____)

SUBPART J: DISINFECTION

Section 370.1000 General

Where needed to meet applicable standards, disinfection of the effluent shall be provided. The design shall provide for meeting both the bacterial standards and any disinfectant residual limits applicable to the effluent.

(Source: Amended at 20 Ill. Reg. _____, effective _____)

Section 370.1010 Disinfection Process Selection Methods for Disinfection

a) The disinfection process should be selected after due consideration of waste characteristics, type of treatment processes provided prior to disinfection, waste flow rates, waste pH, disinfectant demand rates, current technology application, cost of equipment, chemical availability, power costs and maintenance requirements. Areswide public safety shall be considered where large liquid chlorine or sulfur dioxide containers are to be handled. Flow rates, current technology, application and demand rates, pH, of waste, cost of equipment and the chemical availability and maintenance problems. Where large containers of liquid chlorine would be required, area-wide public safety shall be considered.

b) Chlorine may be used in the form of liquid chlorine or calcium or sodium hypochlorite limits. White disinfection usually is accomplished with liquid chlorine, alternate methods using calcium or sodium hypochlorite or chlorine dioxide should be considered. Disinfection will be required where necessary to meet applicable Chlorine residual.

c) An ultra-violet radiation system may be used as an alternative disinfection process.

d) Other alternative means of disinfection will be evaluated according to the provisions of Section 370.520(b).

(Source: Amended at 20 Ill. Reg. _____, effective _____)

Section 370.1020 Chlorine Disinfection Feed Equipment

a) Type of Feed Equipment

The types of chlorine feed equipment include:

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- 1) Vacuum solution feed by gas;
 - 2) Direct gas feed;
 - 3) Hypochlorite solution positive displacement pump feed;
 - 4) Hypochlorite tablet feed.
- b) Selection of Feed Equipment
- The selection of the type of chlorine feed equipment shall take into account operator safety and overall public safety relative to the proximity of the sewage treatment plant to populated areas and to the security of the gas cylinder or container storage.

c) Output Capacity of Gas Chlorine Cylinders

Delivery Rates (lbs of chlorine/day)

Ambient Temp. °F	100 pound Cylinder Container	150 pound Cylinder Container	1 Ton Container
40	6	9	100
50	14	21	240
60	23.7	35.5	385
70	32	47.5	536
80	41.2	62	700

Some ~~it is recognized that~~ some types of vacuum chlorinators can deliver chlorine at rates greater than those listed above under the same conditions. When designs include rates in excess of those indicated above, manufacturer's specifications and test results shall be provided.

- d) Standby Equipment and Spare Parts
- Standby equipment of sufficient capacity should be available to replace the largest unit during shutdowns. Spare parts shall be available for all chlorinators to replace parts which are subject to wear and breakage.

- e) Potable Water Supply Protection
- An ample supply of water shall be available for operating the chlorinator. Where a booster pump is required, duplicate equipment should be provided and, when necessary, also standby power (refer to Section 370.550(a)(4)). Protection of a potable water supply shall conform to the requirements of Section 370.550(b)(3). In-line backflow preventers are not acceptable.

f) Chlorine Gas Supply

- 1) Cylinders

The use of 1-ton containers should be considered where the average daily chlorine gas consumption is over 150 pounds. All upright chlorine cylinders shall be strapped securely to prevent tipping.
- 2) Tank Cars

- A) At large installations the use of tank cars, generally

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accompanied by evaporators, may be considered. Areawide public safety shall be evaluated as a part of the considerations. Provisions shall be made for a chlorine supply during tank car switching.

- B) The tank car being used for the chlorine supply shall be located on a dead end, level track that is a dedicated siding. The tank car shall be protected from accidental bumping by other railway cars by a locked de-rail device, a closed lock switch, or both. The area shall be clearly posted "DANGER-CHLORINE." The tank car shall be secured by adequate fencing with locked gates for personnel and rail access.

- C) The tank car site shall be provided with an operating platform at the unloading point that allows for easy access to the protective housing on the tank car for flexible feed line connection and valve operation. Area lighting adequate for night time operation and maintenance shall be provided.

3) Scales

- A) Scales shall be provided for weighing cylinders and containers at all plants using chlorine gas.

- B) At large plants, indicating and recording scales are recommended. At a minimum, a platform scale shall be provided. Scales shall be made of corrosion-resistant material. Scales should be recessed unless hoisting equipment is provided or the scales are low enough to allow the cylinders to be rolled onto them.

4) Evaporators

Where manifolding of several cylinders or containers will be required to evaporate sufficient chlorine, consideration should be given to liquid drawoff and installation of an evaporator.

5) Leak Detection and Controls

A bottle of ammonium hydroxide solution should be available for detecting chlorine leaks. Consideration should also be given to the provision of caustic soda solution reaction tanks for absorbing the contents of leaking 1-ton containers where such containers are in use. Also, when cylinders, containers or tank cars are used, a leak repair kit approved by the Chlorine Institute shall be provided. At installations using over 150 pounds of chlorine gas per day consideration should be given to the installation of automatic gas detection and related alarm equipment.

g) Piping and Connections

- 1) Piping systems should be as simple as possible, and shall be specially selected and manufactured to be suitable for chlorine service, with a minimum number of joints. Piping should be well supported and protected against temperature extremes.

- 2) The chlorine system piping shall be color coded and labeled to distinguish it from sulfur dioxide and other plant piping. Where

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sulfur dioxide is used, the piping and fittings for chlorine and sulfur dioxide systems shall be designed so that interconnection between the two systems cannot occur.

h) Housing

- 1) Container and Equipment Location
Containers and feed equipment should be located indoors, in a suitable fire-resistant building. Gas cylinders should be protected from direct sunlight if not located indoors.

A) Separation
If gas chlorination equipment and chlorine cylinders or containers are to be housed in a building used for other purposes, the chlorine cylinders or containers and equipment shall be located in an isolated room. This room shall not contain any sulfonation equipment, sulfur dioxide cylinders or other equipment unrelated to chlorination. Common walls to other areas of the building shall be gastight. Doors to this room shall open only to the outside of the building and shall be equipped with panic hardware. Rooms shall be at ground level and shall permit easy access to all equipment. Storage areas should be separated from the feed area.

- B) Inspection Window
A clear gastight window shall be installed in the chlorinator room to permit the units to be viewed and gauges to be read without entering the room.

C) Heat
Chlorinator housing facilities shall be provided with a means of heating so that a temperature of at least 60° F can be maintained. Where chlorine gas is to be withdrawn from cylinders or containers, the cylinders or containers shall be maintained at essentially room temperature. The room shall be protected from excessive heat. If liquid chlorine is to be withdrawn from the cylinders or containers to an evaporator unit, the feed cylinders or containers may be located in an unheated area.

3) Ventilation For Gas Chlorination Systems

A) Forced, mechanical ventilation shall be installed which will provide 1 complete air change per minute. The entrance to the air exhaust duct from the room shall be within 12 inches of the floor and the point of discharge shall be so located as not to contaminate the air in the immediate vicinity of the entrance door to the chlorinator room or inlet to any buildings or inhabited areas.

B) The chlorination room air inlets shall be so located as to provide cross ventilation with air and at such temperature that will not adversely affect the chlorination equipment. The vent hose from the chlorinator shall discharge to the outside atmosphere above grade.

4) Electrical Controls

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The controls for the fans and lights shall be provided at those locations where it is necessary to enter the chlorination room and shall automatically operate when the door is opened and continue to operate when the operator enters the room and the door is closed. Provision shall be made for manual operation of controls from the outside of the room without opening the door.

5) Outdoor Cabinet Housing

Outdoor shallow cabinet-type units, with wide opening doors, that are shallow enough not to need or require operator entry, may be used to house the containers and feed equipment. Use of such cabinets shall be limited to small plants that provide seasonal disinfection or use less than 10 pounds of chlorine per day. Only two chlorine gas cylinders of 150 pounds or less on line may be housed in the cabinets. The following items shall be provided for in the design:

- A) The cabinet structure shall be located on and securely anchored to a concrete slab sized to allow for safe transport and handling of the cylinders. The structure and slab shall be capable of withstanding expected wind loadings on the cabinet.
- B) The cabinet shall be protected from direct sunlight to prevent overheating of the chlorine cylinders.
- C) The cabinet doors shall extend the full width of the long side of the cabinet structure so that the full interior of the cabinet is exposed with the door open. Provision shall be made to secure the open doors while the operator is changing cylinders and maintaining the feed equipment.
- D) The cabinet depth shall not exceed 24 inches. The feed equipment shall be positioned to allow easy access for maintenance and to allow observation of the gauges and meters.
- E) Provision shall be made for chains, wall mounted fastener hooks or similar means for anchoring the chlorine cylinders to prevent tipping.
- F) The cabinet structure shall be corrosion resistant to chlorine gas.
- G) Where electrical power is available, the cabinet should be placed in a well-lighted area.

1) Respiratory Protection Equipment

Respiratory protection equipment meeting the requirements of the National Institute for Occupational Safety and Health (NIOSH) shall be available at all installations where chlorine gas is handled and shall be stored in a convenient location outside of any room where chlorine is used or stored. The respiratory protection units shall use compressed air, have at least a 30-minute capacity, and be compatible with or exactly the same as NIOSH-approved units used by the local fire department. Instructions for using, testing, and replacing mask parts shall be posted. At large installations, consideration should

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be given to providing acid suits and fire suits.

1) Application of Chlorine

- 1) Contact Period
After thorough mixing, a minimum contact period of 15 minutes at design peak hourly flow or maximum rate of pumpage shall be provided.

2) Chlorinator Dosing Rate Capacity

Chlorinators shall be designed to have a capacity adequate to produce an effluent that will meet the applicable bacterial limits. Where necessary to meet the operating ranges, multiple units shall be provided for adequate peak capacity and for a sufficiently low feed rate on turn down to allow proper chlorine residual. The chlorination system shall be designed on a rational basis and calculations justifying the equipment sizing and number of units shall be submitted for the whole operating range of flow rates, including the minimum turn down capacity for the type of control to be used. System design considerations shall include the controlling sewage flow meter (sensitivity and location), telemetering equipment and chlorinator controls. For treated normal domestic sewage the following dosing capacity, based on design average flow, is suggested (see Section 370.520(C)(1)):

Dosage (mg/l)

Type of Treatment	Dosage (mg/l)
Primary Settled Sewage	20
Lagoon Effluent (unfiltered)	20
Trickling Filter Plant Effluent	10
Lagoon Effluent (filtered)	10
Activated Sludge Plant Effluent	6
Activated Sludge Plants with Chemical Addition	4
Filtered Effluent Following Mechanical Biological Treatment	4

k) Contact Tank

- 1) Mechanical means of sludge removal is recommended and should be provided unless multiple chlorine tanks are provided. Portable deck-level vacuum cleaning equipment may be used for small treatment plants. Provisions for drainage contact tanks not equipped with mechanical sludge removal equipment shall be provided, with the drain flow returned to process for treatment. Excretion to the requirement of duplicate contact tanks may be granted if the contact tank follows a sand filter or if the main treatment works is a waste stabilization pond, with provisions for storing the sewage flow for several days while the contact tank is being cleaned.

- 3) Adequate mixing during the chlorine contact period shall be

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insured by the installation of adequate baffling, air or other mixing equipment. Facilities for the retention and removal of floating scum shall be provided.

(Source: Amended at 20 Ill. Reg. _____, effective _____)

Section 370.1021 Dechlorination

a) General

Dechlorination of sewage plant effluents may be required to reduce toxicity due to chlorine residuals.

b) Feed Equipment

1) Type

The common type of dechlorination feed equipment using sulfur compounds include:

A) Vacuum solution feed of sulfur dioxide gas.

B) Positive displacement pump feed or aqueous solutions of sulfite or bisulfite products.

2) Selection of Feed Equipment

The selection of the type of feed equipment using sulfur compounds shall include consideration of operator safety and overall public safety relative to the proximity of the sewage treatment plant to populated areas and the security of the gas cylinder storage. The selection and design of sulfur dioxide feeding equipment shall take into account the fact that the gas re-equilifies very easily.

c) Output Capacity of Sulfur Dioxide Cylinders

The number of feed cylinders or containers necessary to meet the design delivery rates shall be based on the physical, thermodynamic and chemical properties for sulfur dioxide. Refer to the Compressed Gas Association publication CGA G-3-1988 "Sulfur Dioxide" or other standard reference sources for information on sulfur dioxide properties.

d) Standby Equipment and Spare Parts

Standby equipment should be available of sufficient capacity to replace the largest unit during shutdown. Spare parts to replace parts that are subject to wear and breakage shall be available for all sulfonators.

e) Potable Water Supply

An ample supply of water shall be available for operating the sulfonator. Where a booster pump is required duplicate equipment should be provided and, when necessary, standby power. (Refer to Section 370.550(a)(4).) Protection of the potable water supply shall conform to the requirements of Section 370.550(b)(6). In-line back flow preventers may not be used.

f) Sulfur Dioxide Gas Supply

1) Cylinders

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The use of 1-ton containers should be considered where the average daily sulfur dioxide consumption is over 150 pounds. All upright sulfur dioxide cylinders shall be strapped securely to prevent tipping.

2) Tank Cars

A) The use of tank cars, generally accompanied by evaporators, may be considered for large installations. Arawide public safety shall be evaluated as part of the considerations. Continuity of sulfur dioxide supply shall be maintained during tank car switching.

B) The tank car being used for the sulfur dioxide supply shall be located on a dead end, level track that is a dedicated siding. The tank car shall be protected from accidental bumping by other railway cars by a locked de-rail device, a closed lock switch, or both. The area shall be clearly posted "DANGER-SULFUR DIOXIDE." The tank car shall be secured by adequate fencing with locked gates for personnel and rail access.

C) The tank car site shall be provided with an operating platform at the unloading point that allows for easy access to the protective housing on the tank car for flexible feed line connection and valve operation. Area lighting adequate for night time operation and maintenance shall be provided.

3) Scales

A) Scales shall be provided for weighing cylinders or containers at all plants using sulfur dioxide gas.

B) At large plants indicating and recording scales are recommended. At a minimum, a platform scale shall be provided. Scales shall be made of corrosion resistant material. Scales should be recessed unless hoisting equipment is provided or the scales are low enough to allow the cylinders to be rolled onto them.

4) Evaporator

Where the manifold of several cylinders or containers will be required to evaporate sufficient sulfur dioxide, consideration should be given to liquid drawoff and installation of an evaporator. A liquid nitrogen gas padding system to enhance the liquid sulfur dioxide delivery rate should be considered.

5) Leak Detection and Controls

Sulfur dioxide leak detection equipment shall be provided which has a sensitivity level equal to that of ambient air pollution monitoring equipment. Where cylinders, one-ton containers and tank cars are used, a leak repair kit that is compatible for use with sulfur dioxide gas shall be provided. Leak repair kits used for chlorine gas (Section 370.1020(f)(5)) equipped with gasket materials suitable for service with sulfur dioxide may be used. (See paragraphs 10.1 and 13.2 of "Sulfur Dioxide," Compressed Gas Association, Inc., Publication CGA-3-1988 for a discussion of

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g) Piping and Connections Refer to Section 370.560.

1) Piping systems should be as simple as possible, with a minimum number of joints, and shall be suitable for sulfur dioxide service. Piping should be well supported and protected against temperature extremes.

2) The piping for the sulfur dioxide system shall be color-coded and labeled to distinguish it from chlorine piping, and the system shall be designed so that interconnections with chlorine piping cannot occur.

h) Housing

1) Container and Equipment Location

Containers and feed equipment should be located inside a fire resistant building. Gas cylinders and containers should be protected from direct sunlight.

A) Isolation

If gas sulfonation equipment and sulfur dioxide cylinders will be located in a building also used for other purposes, the sulfur dioxide equipment and containers shall be located in an isolated room that shall not contain any chlorination equipment, chlorine containers or any other equipment unrelated to sulfonation. Common walls to other areas of the building shall be gastight. Doors to the room shall open only to the outside and shall be equipped with panic hardware. Rooms shall be at ground level and shall allow easy access to all equipment. Storage areas should be separated from feed areas; sulfur dioxide and chlorine cylinders shall be stored in separate areas.

B) Inspection Window

A clear gastight window shall be installed in the sulfonator room to permit the units to be viewed and gauges to be read without entering the room.

2) Heat

Sulfonator housing facilities shall be provided with a means of heating so that cylinder temperatures can be maintained in the range of 90 to 100° F when sulfur dioxide is to be withdrawn from the cylinder. The sulfonator room shall be protected from excessive heat.

3) Ventilation for Sulfur Dioxide Systems

A) Forced, mechanical ventilation that will provide one complete air change per minute shall be installed in the sulfonator room. The entrance to the exhaust duct from the room shall be within 12 inches from the floor and the point of discharge shall be located so as not to contaminate the air in the immediate vicinity of the door to the sulfonator room or ventilation inlet to any buildings or inhabited areas.

B) The air inlets to the sulfonator room shall be located so as

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to provide cross ventilation with air and at temperatures that will not adversely affect the sulfonation equipment. The vent nose from the sulfonator shall discharge to the outside atmosphere above grade.

4) Electrical Controls

Controls for fans and lights shall be located at the entrances to the sulfonation room and shall automatically operate when the door is opened and continue in operation when the operator enters the room and the door is closed. Provision shall be made for operation of the fans and lights from the outside without opening the door.

1) Respiratory Protection Equipment

Respiratory protection equipment meeting the requirements of NIOSH shall be available at all installations where sulfur dioxide gas is handled and shall be stored in a convenient location outside of any room where sulfur dioxide is used or stored. The units shall use compressed air, shall have at least a 30-minute capacity and shall be the same as or compatible with NIOSH-approved units used by the local fire department. Instructions for using, testing and replacing mask parts shall be posted. At large installations, providing acid suits and fire suits should be considered.

Application of Sulfonation Chemicals

1) Contact Period and Reaeration

A minimum contact period of 30 seconds, including mixing time, at design peak hourly flow or maximum pumpage rate shall be provided. Mechanical mixers are required unless the mixing facility will provide the necessary hydraulic turbulence to assure thorough mixing. A means of reaeration shall be provided to insure maintenance of the required dissolved oxygen concentration in the effluent and the receiving stream after sulfonation. When choosing a reaeration method the fact that excess sulfur dioxide, formed when the dechlorinating chemicals are dissolved in water, may be expected to consume 1 mg of dissolved oxygen for every 4 mg of sulfur dioxide should be taken into account.

2) Sulfonation Dosing Rate Capacity

A) Capacity

Sulfonators shall be designed to have a capacity adequate to produce an effluent that meets the applicable chlorine residual effluent limits. Where necessary to meet the operating ranges, multiple units shall be provided for adequate peak capacity and to provide a sufficiently low feed rate on turn down to avoid depletion of the dissolved oxygen concentrations in the receiving waters. The sulfonation system shall be designed on a rational basis and calculations justifying the equipment sizing and number of units shall be submitted for the entire operating range, including the minimum turn down capability for the type of

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control to be used. System considerations shall include the controlling sewage flow meter (sensitivity and location), telemetering equipment and sulfonator controls.

B)

Dosing Rates
The design dosage rate of the sulfonation equipment shall be based on the particular dechlorinating chemical used and the applicable residual chlorine limits. The following theoretical amounts of the commonly used dechlorinating chemicals may be used for initial approximations to size feed equipment.

Theoretical mg/l
required to neutralize
1 mg/l Cl(2)

Sulfur dioxide (gas)

0.90

Sodium meta bisulfite

(solution)

1.34

Sodium bisulfite

(solution)

1.46

The design shall take into account the fact that under good mixing conditions approximately 10% more dechlorinating chemical than theoretical value is required for satisfactory results.

C) Liquid Solution Tanks

Mixing and dilution tanks for dechlorinating feed solutions shall be provided as necessary to mix dry compounds and to dilute liquid compounds to provide for proper dosage. Solution tanks should be covered to minimize evaporation. The mixing and dilution tanks should be sized to provide sufficient feed solution for several days of operation. The tanks shall be made of materials that will withstand the corrosive nature of the solutions. Refer to Section 370.560.

(Source: Added at 20 Ill. Reg. _____, effective _____)

Section 370.1022 Ultraviolet Disinfection

Because operating data and experience with this process is not well established, expected performance of the ultraviolet disinfection units shall be based upon either experience at similar full scale installations or thoroughly documented prototype testing with the particular wastewater. Use of this process should be limited to high quality effluent having at least 65% ultraviolet radiation transmittance at 254 nanometers wave length and BOD and suspended solids concentrations no greater than 30 mg/l at any time. Projects

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will be evaluated by the Agency on the basis of the factors set out in Section 370.530(b).

(Source: Added at 20 Ill. Reg. _____, effective _____)

Section 370.1030 Chlorine Gas Supply (Repealed)

a) Cylinders

the use of 1-ton containers should be considered where the average daily chlorine consumption is over 150 pounds. All upright chlorine cylinders shall be strapped securely to prevent tipping.

b) Tank Cars

At large installations the use of tank cars, generally accompanied by evaporators, may be considered. Provision of chlorine supply during tank car switching shall be provided.

c) Scales

1) Scales shall be provided for weighing cylinders at all plants using chlorine gas.

2) At large plants, scales of the indicating and recording type are recommended. At least a platform scale shall be provided. Scales shall be of corrosion-resistant material. Scales should be recessed unless hoisting equipment is provided or the scales are low enough to allow the cylinders to be rolled on to the scale.

d) Evaporators

Where manifolded, of several cylinders will be required to evaporate sufficient chlorine, consideration should be given to liquid drawoff and installation of an evaporator.

e) Leak Detection and Controls

A bottle of ammonium hydroxide solution should be available for detecting chlorine leaks. Consideration should also be given to the provision of caustic soda solution reaction tanks for absorbing the contents of leaking 1-ton cylinders where such cylinders are in use. Also, when cylinders are used, a leak repair kit approved by the chlorine institute shall be provided. At large installations consideration should be given to the installation of automatic gas detection and related alarm equipment.

(Source: Repealed at 20 Ill. Reg. _____, effective _____)

Section 370.1040 Piping and Connections (Repealed)

Piping systems should be as simple as possible, specially selected and manufactured to be suitable for chlorine service, with a minimum number of joints. Piping should be well supported and protected against temperature extremes.

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(Source: Repealed at 20 Ill. Reg. _____, effective _____)

Section 370.1050 Housing (Repealed)

Shipping containers and equipment containing chlorine preferably should be located indoors in a suitable fire-resistant building. Gas cylinders should be protected from direct sunlight if not located indoors.

a) Separation

If gas chlorination equipment and chlorine cylinders are to be in a building used for other purposes, the chlorine containers and equipment shall be located in an isolated room. Common walls to other areas of the building shall also be gas-tight. Doors to this room shall open only to the outside of the building and shall be equipped with panic hardware. Rooms shall be at ground level and shall permit easy access to all equipment. Storage areas should be separated from the feed area.

b) Inspection Window

A clear gas-tight window shall be installed in the chlorine room to permit the units to be viewed and gauges to be read without entering the room.

c) Heat

Chlorinator housing facilities shall be provided with a means of heating so that a temperature of at least 60° can be maintained. Also, the room shall be protected from excessive heat. Cylinders shall be kept at essentially room temperature.

d) Ventilation

1) Periodic mechanical ventilation shall be installed which will provide a complete air change per minute. The entrance to the air exhaust duct from the room shall be within 12 inches of the floor and the point of discharge shall be so located as not to contaminate the air inlet to any buildings or inhabited areas.

2) The chlorine room air inlets shall be so located as to provide cross-ventilation with air and at such temperature that will not adversely affect the chlorine equipment. The vent hose from the chlorinator shall discharge to the outside atmosphere above grade.

3) Remote chlorine facilities without electrical power available and utilizing direct chlorine gas feed shall be constructed so that the operation and chlorine tank change can be made without the operator entering an enclosure.

e) Electrical Controls

The controls for the fans and lights shall be provided at those locations where it is necessary to enter the chlorine room and shall be such that they will automatically operate when the door is opened and can also be manually operated from the outside without opening the door.

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c) Contact-Tank

- 1) Mechanical means of sludge removal is recommended and should be provided unless multiple chlorine tanks are provided. Portable deck level vacuum cleaning equipment may be used for small treatment plants. Provisions for draining contact tanks not equipped with mechanical sludge removal equipment shall be provided with the drain flow returned to process for treatment.
- 2) Exception to the requirement of duplicate contact tanks may be granted if the contact tank follows a sand filter or if the main treatment works is a waste stabilization pond with provisions for storing the sewage flow for several days while the contact tank is being cleaned.
- 3) Adequate mixing during the chlorine contact period shall be insured by the installation of adequate baffling or other mixing equipment. Facilities for the retention and removal of floating scum shall be provided.

(Source: Repealed at 20 Ill. Reg. _____, effective _____)

Section 370.1080 Sampling and Testing

- a) Facilities shall be included for collecting securing samples, as monitoring requirements warrant, of the disinfected effluent after contact.
- b) Where chlorine disinfection is used, equipment shall be provided for measuring chlorine residual using accepted test procedures.
- c) Where required by the Agency, equipment shall also be provided for measuring fecal coliform using accepted test procedures.

(Source: Amended at 20 Ill. Reg. _____, effective _____)

Section 370.1120 High Rate Filtration

a) Design Considerations

Care should be given in the selection of pumping equipment ahead of filter units to minimize shearing of flow particles. Consideration should be given in the plant design to providing flow-equalization facilities to moderate filter influent quality and quantity.

b) Pretreatment

A positive method shall be provided to control the suspended solids loading to the filters. Equipment for the feeding of chemical coagulant aids prior to secondary settling shall be provided unless other equally effective means of suspended solids control are used.

c) Multiple Units

Multiple units shall be provided. At least three units should be

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(Source: Repealed at 20 Ill. Reg. _____, effective _____)

Section 370.1060 Respiratory Protection Equipment (Repealed)

Respiratory protection equipment meeting the requirements of the National Institute for Occupational Safety and Health (NIOSH) shall be available at all installations where chlorine gas is handled and shall be stored in a convenient location outside of any room where chlorine is used or stored. The units shall use compressed air or oxygen have at least a 30-minute capacity, and be compatible with or exactly the same as NIOSH approved units used by the local fire department. Instructions for using, testing, and replacing mask parts shall be posted. At large installations consideration should be given to the provision of acid suits and fire suits.

(Source: Repealed at 20 Ill. Reg. _____, effective _____)

Section 370.1070 Application of Chlorine (Repealed)

a) Contact Period

After thorough mixing a minimum contact period of 15 minutes at peak hourly flow or maximum rate of pumpage shall be provided.

b) Chlorinator Dosing Rate Capacity

Chlorinators shall be designed to have a capacity adequate to produce an effluent that will meet the coliform limits specified by applicable IPGB Rules and Regulations. Where necessary to meet the operating ranges multiple units shall be provided for adequate capacity and to prevent excessive chlorine residuals in the effluent. Pot treated normal domestic sewage the following dosing capacity based on design average flow is suggested (see Section 370.1430(c)).

Type of Treatment Dosage (mg/l)

Primary Settled Sewage 20

Ragoon Effluent (unfiltered) 20

Grickling Filter Plant Effluent 10

Ragoon Effluent (filtered) 10

Activated Sludge Plant Effluent 6

Activated Sludge Plants with Chemical Addition 4

Filtered Effluent Following Mechanical Biological Treatment 4

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provided. Units shall be capable of independent operation and maintenance.

d) Filtration Rates

The peak hourly flow rate applied to the filter shall not exceed 5 gpm/sq. ft. of filter area, computed with one unit out of service.

1) Rate Controls

Controls shall be provided which allow adjustment and control of the rate of flow to each filter unit.

2) Flow Measurement

The flow to each filter shall be monitored by indicating equipment.

e) Accessibility and Maintenance

Each filter unit shall be designed and installed so that there is ready and convenient access to all components and the media surface for inspection and maintenance without taking other units out of service.

f) Housing

Housing of filter units shall be provided. The housing shall be constructed of suitable corrosion-resistant materials. All controls shall be enclosed, and the structure housing the filter, controls and equipment shall be provided with heating and ventilation adequate to minimize problems with excess humidity.

g) Construction Details

1) Underdrains

The underdrain system shall be designed for uniform distribution of flow of backwash water (and air, if provided) without danger of clogging from solids in the backwash water. A positive means of pressure relief shall be provided for the underdrain system to prevent structural damage by excessive backwash pressures. The selection of the underdrain system shall be based on demonstrated satisfactory field experience under similar conditions.

2) Media

The selection of proper media sizes and types depends upon the filtration rate selected, the type of treatment provided the influent to the filter, filter configuration, and effluent quality objectives. In dual or multi-media filters, media size and type selection must consider compatibility among media. Media shall be selected and provided to meet specific conditions and treatment requirements relative to the project under consideration. The selection and sizing of the media shall be based on demonstrated satisfactory field experience under similar conditions. All media shall have a uniformity coefficient of 1.7 or less. The uniformity coefficient, effective size, depth and type of media shall be set forth in the specification. The following tables summarize minimum depths and media sizes normally used:

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SINGLE-BED MEDIA FILTER

MEDIA MATERIALS

PERMITTEE'S SITE (mm) / BPPPH-TINT

Sand

1-0---4-0/40

DUAL-BED MEDIA FILTERS

MEDIA MATERIALS

PERMITTEE'S SITE (mm) / BPPPH-TINT

Anthracite

1-0---2-0/20

Sand

0-5---1-0/12

MEDIA MATERIALS

PERMITTEE'S SITE (mm) / BPPPH-TINT

Anthracite

1-0---2-0/20

Sand

0-5---0-0/10

Similar Material

0-3---0-6/2--

3) Appurtenances

The design of the filter appurtenances shall be based on demonstrated satisfactory field experience under similar conditions. The filters piters shall be equipped with the following:

A) Wash water troughs.
B) Surface wash, air scouring equipment or mechanical agitation designed to adequately remove entrapped solids from the media.

C) Equipment for measuring filter head loss.

D) Filter influent and effluent sampling points.

E) Also refer to subsections (h)(2), (h)(4) and (i) below.

h) Backwash

1) Rate and Duration

The backwash rate shall be adequate to fluidize and expand each media layer a minimum of 20 percent based on the media selected. Minimum and maximum backwash rates shall be based on demonstrated satisfactory field experience under similar conditions. The design shall provide for a minimum backwash period of 10 minutes. The backwash system shall be capable of providing a variable backwash rate having a maximum rate of 20 gpm/sq. ft. and a minimum backwash period of 10 minutes. Excessive backwash rates may cause washout of the filter media.

2) Control and Flow Measurement

A positive means of shutting off flow to a filter shall be provided. Controls shall be provided which permit adjustment of both the backwash rate and the backwash period. Flow measurement

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of the backwash flow rate shall be provided. A staff gauge or wall mounted scale to allow use of the rise rate for flow measurement may be used.

- 3) Clearwell
A clearwell or other plant tankage isolated from unfiltered flows shall be provided as a source of backwash water. Filtered plant effluent shall be used as backwash water. The volume of storage provided shall be sufficient to allow sequential backwashing of at least 2 filter units at the design backwash rate.
- 4) Chlorination of Filter Backwash
Provision shall be made for periodic chlorination of filter backwash water (or filter influent) to control slime growths. The flows from the cleaning of the filters shall be returned to the head of the plant. Refer to subsection (h)(6)(A) below.
- 5) Backwash Pumps
Where used, backwash pumps shall be provided in multiple units, designed for independent operation and maintenance. Pumps shall be sized in accordance with subsection (h)(1) above to provide the required backwash rate with one unit out of service and should be of equal size. The total dynamic head of the pump shall be limited to that needed for the application so that undue stress of the underdrain system will not occur. Refer to subsection (g)(1) above.

- 6) Mudwell
A mudwell or other plant tankage shall be provided to hold backwash water from the filters. The volume provided shall be sufficient to hold the water generated by the backwashing of two filter units including the water in and above the filter media prior to filtration. Refer to subsection (h)(1) above. Filter backwash shall be returned to process or otherwise treated to insure compliance with applicable standards.

- A) Return Rate
The rate of return of filter backwash to the treatment units shall not exceed 15 percent of the design average daily-flow rate to the treatment units. Refer to subsection (j)(1) below and Section 370.520(g).

- B) Mudwell Return Pumps
Backwash return pumps, where used, shall be provided in multiple units designed for independent operation and maintenance. The units shall be sized to provide the required pumping rate with the largest unit out of service. Refer to subsection (h)(6)(A) above.

- i) Control Panel
Automatic controls shall be provided, with a manual override on the control panel for operating equipment, including each individual valve essential to the filter operation.

- j) Miscellaneous Considerations
 - 1) Return Backwash Loadings

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The return of backwash water and solids will result in increases in the hydraulic and suspended solids loads to the preceding treatment units. Design of these units shall take into account the increased loads.

- 2) Oil and Grease
Filters at treatment plants treating wastewaters containing above normal concentrations of greases or similar materials should be of the gravity type. Facilities should be considered for the periodic addition of chemicals to remove greases in such cases.
- 3) Proprietary Equipment
Proprietary equipment not conforming to the requirements of this section will be evaluated on a case-by-case basis in accordance with Section 370.520(b).

(Source: Amended at 20 Ill. Reg. _____, effective _____)

Section 370.1130 Low Rate Intermittent or Periodically Dosed Sand Filters

- a) Applicability
1) Intermittent sand filters may be used to polish secondary effluents. The process removes residual suspended solids and soluble biochemical oxygen demand and converts ammonia to nitrate. (See Section 370.1210(b)).
- 2) Cold weather operational problems may preclude the use of this process unless the influent temperature to the filter is adequate to allow efficient filter operation necessary to meet the applicable effluent standards.
- 3) Because of manual labor necessary to clean, maintain and replace sand on the filters, the application is usually limited to small waste treatment plants.

- b) Design Criteria

The criteria of Section 370.940(b), (c), and (f)(3), are generally applicable to intermittent sand filters used as tertiary filtration units.

- 1) Dosing Volumes
The dosing facilities shall be sized to provide for a 12-hour dosing cycle for each bed.
- 2) Siphons or Pump Capacity
Siphons (at minimum head) or pumps shall have a discharge capacity at least 100 percent in excess of the maximum rate of inflow to the dosing tank, including recirculation, and at average head, at least 90 gallons per minute per 1,000 square feet being dosed.

- 3) Recirculation
Provision for recirculation of filter effluent may be included to improve process flexibility.

- A) Rate

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A recirculation rate of up to 100% of design average flow to the filter may be provided.

B) Variability for varying the recirculation rate shall be provided.

4) Loading Rates

The hydraulic load of secondary wastewater applied to supplemental intermittent sand filters shall not exceed 15 gallons per day (gpd)/sq. ft. More conservative application rates should be provided for low quality filter influents. Refer to subsection (d)(3) below.

c) Construction Details

The criteria of Section 370.940(g) are generally applicable to tertiary intermittent sand filters. Also, refer to subsection (d).

d) Special Design Considerations in Lagoon Systems

1) General

Low rate sand filter systems that are intermittently or periodically dosed may be used to reduce suspended solids from multicell aerated or nonaerated sewage lagoon treatment plants. Design standards, operating data, and experience for this application is very limited. The Agency expects to review the design considerations when additional experience and data are available from operating facilities in Illinois and elsewhere. Existing operating facilities should be studied and the Agency should be contacted early in the design considerations of selecting this process to learn of any recent experience and data that may be of benefit to the design engineer.

2) Cold Weather Design

Lagoons which have sand filters shall be designed to provide storage of flows received during cold weather when the filter is expected to be inoperable.

3) Hydraulic Loading

A) The filter area design considerations must include the following:

i) The total annual flow volume to be treated (Section 370.520(c)(1)) including wet weather flows if the lagoons are to be used for wet weather storage.

ii) The effective net days annually for filter operation excluding cold weather shut-down and filter maintenance time.

iii) Lagoon effluent quality.

iv) Extent and reliability of flow data from the sewer system.

B) Where sewer system conditions are not favorable or industrial waste loadings are expected to increase algae blooms, the loading rate should be limited to 10 gal./ft.(2)/day.

4) Dosing Considerations

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A) Methods of Operation

The design should include allowance for periodic dosing of varied volumes onto the filter while the filter discharge is shut off, then to be followed by a filtration period to completely empty the filter at a controlled rate.

B) Depth

The filter shall be designed for flexibility of dosing depth from 6 inches to 2 feet.

C) Valving, Piping, Flow Measurement

i) The filter shall be provided with valving to allow shutting off and controlling rate of flow both onto and from the filter. A flow measurement weir or flume shall be provided both on the inlet and outlet of the filter for operator control of the dosing and filtration rates under the falling head conditions.

ii) The outlet valving, piping and flow measurement shall be designed to allow complete drainage of the filter underdrains at the end of the filter cycle to insure aerobic conditions in the filter during the rest period.

D) Dosing Inlet Structures

The dosing inlet structures shall be designed to dissipate inlet velocity and prevent sand scouring during the dosing period at the high dose rates. The inlet structures should be arranged to not interfere with maintenance of the sand surface.

5) Filter Containment Structure

The filter containment may be of vertical concrete walls on three sides (refer to subsection (d)(6) below) or sloped earthen berms with impervious lining, constructed to insure that no ground surface runoff or silts get onto the sand surface. A freeboard of 1 foot above the maximum design dosing depth should be provided.

6) Access Ramps

The filter should be designed with a ramp on one end sloped and surfaced for access to the edge of the bed by wheeled vehicle to facilitate removing and replacement of sand. For larger filters, concrete tracks at the level of the sand surface may be desirable to reduce distance sand must be handled.

(Source: Amended at 20 Ill. Reg. _____, effective _____)

SUBPART L: NUTRIENT REMOVAL

Section 370.1210 Ammonia Control

a) General

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Ammonia control can be accomplished by physical, chemical, biological and ion-exchange techniques. These criteria contain design standards for a limited number of biological types and configurations of ammonia control systems. Other types and configuration of systems will be evaluated in accordance with Section 370.520(b).

1) General Considerations for Process Selection

- A) Biological systems, normally used to accomplish secondary levels of or treatment, may be have been adapted to function as nitrification systems. In most applications of the fixed growth processes staged biological treatment is normally provided. The single stage activated sludge process has been found to be reliable for nitrification and is more commonly used than the two-stage activated sludge process.
- B) Because Design standards operating data and experience for the fixed growth processes for nitrification most of these processes are not well established---therefore, expected performance in all cases shall be based upon experience at similar full scale installations or thoroughly documented prototype pilot testing with the particular wastewater. The design shall provide the necessary flexibility to perform satisfactorily within the range of expected waste characteristics.

2) Alkalinity and pH Control

Biological utilization of ammonia to produce nitrate is consumptive of available alkalinity in the ratio of 7.14 pounds alkalinity (as CaCO₃) per pound of ammonia nitrogen (as N) oxidized. The determination of the need for added alkalinity must be calculated and included in the basis of design to be submitted with the plan documents for Agency approval. The following factors shall be taken into account in determining the amount of alkalinity to be added: based on the---water---supply alkalinity---sewage---concentrations of pH and alkalinity and pH level---the concentrations must be included---in---the basis---of design.

- A) The available alkalinity in the raw wastewater and any sidestreams.
- B) The total ammonia load (including sidestreams such as flows from digesters and sludge handling facilities) imposed on the process.
- C) The alkalinity needed to maintain pH levels in the range of 7.2 to 8.1.

3) Load Equalization

Load equalization shall be considered to limit peak loadings of ammonia from plant sidestreams or slug sources on the sewer system. For the fixed growth biological nitrification processes, the ammonia loading peaks shall be limited to 150% of the design average ammonia loading value.

b) Intermittent Sand Filters

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Intermittent sand filters, used in conjunction with various primary and secondary treatment systems, may be considered for use as a biological process to convert ammonia to nitrate.

1) Construction Details

The construction details are generally as described in Section 370.940(g).

2) Loading CriteriaA) Following Primary Treatment

The design loading criteria following primary treatment is described in Section 370.940(e), (f) and (h) except that reduced organic loadings should be considered to insure meeting effluent ammonia limitations.

B) Following Secondary Treatment

The design loading criteria following secondary treatment is described in Section 370.1130(b)(4) and (d)(3).

c) Suspended Growth Systems1) General

A) For nitrification, the oxygen requirement for oxidizing ammonia must be added to the requirement for carbonaceous BOD removal. The nitrogen oxygen demand (NOD) shall be taken as 4.6 times the peak hourly NH₄-N content of the influent. In addition, the oxygen demands due to recycle flows, digestion and sludge handling facilities, etc., must be considered due to the high concentrations of NH₄-N and NH₃-N associated with such flows.

B) Careful consideration should be given to maximizing oxygen utilization per unit power input. Unit flow equalization is provided, the aeration system should be designed to match the peak hourly load variation while economizing on power input.

1.2) Applicability

Suspended growth nitrifying systems may be designed as a single stage process with combined carbonaceous BOD removal and nitrogenous oxygen demand reductions or as the second stage of a two-stage process following a first stage activated sludge process or other types of biological treatment such as trickling filters or rotating biological contactors used for carbonaceous BOD removal.

2) Design RequirementsA) Aeration and Mixing

For nitrification, the oxygen requirement for oxidizing ammonia must be added to the requirement for carbonaceous BOD removal. The nitrogen oxygen demand shall be taken as 4.6 times the peak hourly ammonia (as N) content of the influent. In addition, the oxygen demands due to sidestream flows, digestion and sludge handling facilities and the like must be considered due to the high concentrations of BOD and ammonia associated with such flows. Sufficient

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aeration and mixing capability shall be provided to maintain a sludge age of up to 20 days and a dissolved oxygen concentration in the aeration tank of at least 2 mg/l.

B) Power

Careful consideration should be given to maximizing oxygen utilization per unit of power input. Unless flow equalization is provided, the aeration system should be designed to match the peak hourly load variation while economizing on power input.

C) Temperature

Provisions shall be made to minimize heat losses to maintain sewage temperatures of at least 50° F in cold weather.

D) Chemical Feed

Where the ratio of ammonia to available alkalinity in the wastewater requires its use, chemical feed equipment shall be provided to maintain adequate alkalinity and a pH level between 7.2 and 8.4.

3) General Design Requirements

The following requirements shall be included in all designs:

A) Sufficient aeration and mixing capability to maintain a sludge age of up to 40 days and a dissolved oxygen in the aeration tank of at least 2 mg/l.

B) Provisions that will minimize heat losses to maintain sewage temperatures of at least 50° F in cold weather.

C) Chemical feed equipment to maintain adequate alkalinity concentrations and a pH level between 7.2 and 8.4.

B) Primary settling or flow equalization shall be provided where necessary to limit BOD and TKN peaks resulting from sewer system flush-out or industrial wastes.

3) 4) Single Stage Activated Sludge

In addition to the requirements of Section 370.920, the following criteria shall govern the design:

A) Organic Loading Organic loading shall not exceed 15 lbs/day of BOD(5) per 1,000 cu.ft. of available tank volume.

B) Detention Time

The hydraulic detention time shall be a minimum of 10 hours based on the plant design flow as determined by Section 370.520(c).

4) 5) Activated Sludge Nitrifying Stage

Following Secondary Treatment the following subsections set out paragraphs--establish criteria in addition to the requirements of Section 370.920 for the activated sludge nitrifying stage following a first stage activated sludge or fixed growth trickling filter or rotating biological reactor processes used for carbonaceous BOD removal.

A) Organic Loading

BOD(5) concentration shall be limited to 20-50 mg/l.

B) Detention Time

The hydraulic detention time shall be a minimum of 10 0

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hours based on the plant design average flow as determined by Section 370.520(c).

C) Special Design Requirements

The following requirements in addition to subsection (c)(3) above, shall be provided:

i) Bypass around the first stage process to allow discharge of raw or primary settled sewage to the second stage aeration tank as needed as a carbon source for process control of the nitrification process.

ii) A first stage process design that will minimize heat losses to maintain sewage temperatures of at least 50° F in cold weather.

d) Fixed Growth Systems

1) General

A) The trickling filter and rotating biological reactor processes may be used to accomplish nitrogenous oxygen demand reductions. Design standard operating data and experience for these nitrifying processes are not well established. Therefore, expected performance shall be based upon experience at similar full-scale installations or thoroughly documented prototype pilot testing with the particular wastewater.

B) In addition to the requirements of Sections 370.908 and 370.910, the design of fixed growth systems shall take into account the peak hourly TKN content of the influent.

1) 2) Applicability

Nitrifying fixed growth systems may be used following activated sludge and fixed growth systems used for carbonaceous BOD removal.

2) 3) General Design Requirements

A) Peak Loadings

In addition to the requirements of Section 370.900, the design of fixed growth systems shall take into account the peak hourly ammonia content of the influent. The design shall provide for ammonia load equalization in accordance with subsection (a)(3) above.

B) 1) Temperature

Adequate cover or housing of the nitrification units shall be provided and preceding systems shall be designed or upgraded to minimize heat losses to maintain sewage temperatures of at least 50° F in cold weather.

C) 2) Ventilation for Process Air Requirements

Adequate ventilation shall be provided to satisfy the oxygen demand of the process. Refer to Sections 370.900 and 370.901(e)(5) and 370.102(a)(3).

D) 3) Chemical Feed

Chemical feed equipment shall be provided to maintain adequate alkalinity concentrations and a pH level between

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7.2 and 8.4 where the ratio of ammonia to available alkalinity in the wastewater requires its use.

EJBT Post-Process Settling

Settling tanks following nitrifying fixed growth systems shall be provided in accordance with Section-370-102(b) and shall be designed in accordance with Subpart G. A single unit will be allowed if the applicable BOD and suspended solids effluent limitations can be met and other serious operational problems will not occur when the clarifier is temporarily out of service.

(Source: Amended at 20 Ill. Reg. _____, effective _____)

ENVIRONMENTAL PROTECTION AGENCY

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Section 370.APPENDIX B Table No. 2 - Commonly Used Quantities of Sewage Flows
From Miscellaneous Type Facilities

Type of Establishment	Gallons Per Person Per Day (Unless otherwise noted)
Airports (per passenger)	5
Bathhouses and swimming pools	10
Camps:	
Campground with central comfort stations	35
With flush toilets, no showers	25
Construction camps (semi-permanent)	50
Day camps (no meals served)	15
Resort camps (night and day) with limited plumbing	50
Luxury camps	100
Cottages and small dwellings with seasonal occupancy	75
Country clubs (per resident member)	100
Country clubs (per non-resident member present)	25
Dwellings:	
Boarding houses	50
(additional for non-resident boarders)	10
Rooming houses	40
Factories (gallons per person, per shift, exclusive of industrial wastes)	35
Hospitals (per bed space)	250
Hotels with laundry private-baths (2 persons per room) per room	15069
Hotels-without-private-baths	-59
Institutions other than hospitals including Nursing Homes (per bed space)	125
Laundries-self service (gallons per wash)	30
Motels (per bed space) with laundry	5049
Picnic parks (toilet wastes only per park user)	5
Picnic parks with bathhouses, showers and flush toilets (per park user)	10
Restaurants (toilet and kitchen wastes per patron)	10
Restaurants (kitchen wastes per meal served)	3
Restaurants (additional for bars and cocktail lounges)	2
Schools:	
Boarding	100

ENVIRONMENTAL PROTECTION AGENCY

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- Day, without gyms, cafeterias or showers
 Day, with gyms, cafeterias and showers
 Day, with cafeterias, but without gyms
 or showers
 Service stations (per vehicle served)
 Swimming pools and bathouses
 Theaters:
 Movie (per auditorium seat)
 Drive-in (per car space)
 Travel trailer parks without individual
 water and sewer hook-ups (per space)
 Travel trailer parks with individual
 water and sewer hook-ups (per space)
 Workers:
 Offices, schools and business
 establishments (per shift)

(Source: Amended at 20 Ill. Reg.

effective _____)

ENVIRONMENTAL PROTECTION AGENCY

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Section 370.APPENDIX C Table No. 3 - Air Test Table for Sanitary Sewer Leakage
 Testing* Agronomic-Pertitization-and-Nitrogen-Uptake-Rates-for-Various-Illinois
Crops

SPECIFICATION TIME (MIN:SEC) REQUIRED FOR PRESSURE DROP

FROM 3 1/2 TO 2 1/2 PSIG WHEN TESTING ONE PIPE DIAMETER ONLY

PIPE DIAMETER, INCHES

Length of Sewer Pipe In Feet	PIPE DIAMETER, INCHES									
	1	5	8	10	12	15	18	21	24	
25	0:04	0:10	0:28	0:29	0:40	1:02	1:29 ⁶	2:01	2:38	
50	0:09	0:20	0:35	0:55	1:19	2:04	2:58	4:03	5:17	
75	0:13	0:30	0:53	1:23	1:59	3:06	4:27	6:04	7:55	
100	0:18	0:40	1:10	1:50	2:38	4:08	5:56	8:05	10:34	
125	0:22	0:50	1:28	2:18	3:18	5:09	7:26	9:55	11:20	
150	0:26	0:59	1:46	2:45	3:58	6:11	8:30			
175	0:31	1:02	2:03	3:13	4:37	7:05				12:06
200	0:35	1:19	2:21	3:40	5:17			10:25	13:36	
225	0:40	1:29	2:38	4:08	5:40			11:35	15:07	
250	0:44	1:39	2:56	4:35			8:31	12:44	16:38	
275	0:48	1:49	3:14	4:43			9:21	12:44	16:38	
300	0:53	1:59	3:31				10:12	13:53	18:09	
350	1:02	2:19	3:47			8:16	11:54	16:12	21:10	
400	1:10	2:38			6:03	9:27	13:36	18:31	24:12	
450	1:19	2:50			6:48	10:38	15:19	20:50	27:13	
500	1:28		5:14	7:34	11:49		17:01	23:09	30:14	

*From Standard Specifications for Water and Sewer Main Construction in Illinois, Fourth Edition, May, 1986. (Copies may be obtained from Illinois Society of Professional Engineers, Springfield, Illinois 62704.)

POUNDS-OF-NUTRIENT

EROP	NITROGEN-UPAKE lbs/acre/year	Available nitrate-N	4:2:0
Corn-for-grain		1-3/bu-	0-28/bu-
Corn-stilage		7-5/8	9-4/8
Wheat-till		2-3/bu-	2-0/bu-
Oats-till	50-76	1-1/8	1-5/8
Barley-till		1-5/8	1-0/8
Rye-till		2-3/bu-	0-69/bu-
Grain-sorghum		2-0/100	0-75/100
for-grain		--lbs-	--lbs-
Grain-sorghum for-stilage		3-1/8	9-4/8

ENVIRONMENTAL PROTECTION AGENCY

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275 394P 194P 534P
 334P 134P 514P
 494P 154P 594P
 534P 174P 634P
 384P 144P 634P
 554P 134P 584P
 155-220 104P 604P
 -77-150 124P 604P
 -94-113 1174P 2144P
 if straw is removed
 1) Legumes can obtain most of their N from the air and are normally not fertilized with N. However, if included in a crop rotation with nitrogen-using crops they will use the available N in the soil and not fix N from the air. Therefore, it can be assumed that they will remove as much N as corn for grain would in the same rotation.
 This information is general in nature and may not reflect an accurate recommendation for all areas or soil types of the State. Any recognized fertility recommendation for Illinois crop climate and soils is acceptable in lieu of these general figures in order to obtain more accurate recommendations for phosphorus and potassium soil testing should be done.

(Source: Amended at 20 Ill. Reg. _____, effective _____)

ENVIRONMENTAL PROTECTION AGENCY

NOTICE OF PROPOSED AMENDMENT

Section 370 APPENDIX H Old Section Numbers Referenced (Unpealed)

The following table is provided to aid in referencing old Agency section numbers to new section numbers pursuant to codification.

35-111-Adm-Code-370

Section-370-100

Section-370-111

Section-370-112

Section-370-113

Section-370-114

Section-370-115

Section-370-116

Section-370-117

Section-370-121

Section-370-122

Section-370-123

Section-370-124

Section-370-125

Section-370-126

Section-370-131

Section-370-132

Section-370-133

Section-370-134

Section-370-135

Section-370-136

Section-370-137

Section-370-138

Section-370-141

Section-370-142

Section-370-143

Section-370-144

Section-370-145

Section-370-146

Section-370-147

Section-370-148

Section-370-151

Section-370-152

Section-370-153

Section-370-161

Section-370-162

Section-370-163

General

Engineering-Report

Detailed-Engineering-Plan

Drawings-Portrait

Specifications-to-Accompany

Detailed-Engineering-Plan

Drawings

Revisions-to-Approved-Plans

and-Specifications

Operation-During-Construction

Engineers-Seal

General-Considerations

Design-Basis

Details-Design-and-Construction

Manholes

Sewers-in-Relation-to-Streams

Protection-of-Water-Supplies

General

Design

Section-Bift-Pump-Stations

Submersible-Pump-Stations

Special-Considerations

Alarm-Systems

Emergency-Operation

Instructions-and-Equipment

Force-Mains

Plant-Location

Quality-of-Effluent

Design

Plant-Details

Plant-Outfalls

Basement-Facilities

Safety

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Pre-Aeration

General-Considerations

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Section-36

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Section-38

Section-41

Section-42

Section-43

Section-44

Section-45

Section-46

Section-47

Section-48

Section-51

Section-52

Section-53

Section-61

Section-62

Section-63

ENVIRONMENTAL PROTECTION AGENCY

NOTICE OF PROPOSED AMENDMENT

Section-64	Protection-----and-----Service Facilities	Section-370-i164
Section-65	Zimhoff-Ranks	Section-370-i165
Section-66	Septic-Tank-----Tile-System	Section-370-i166
Section-71	General	Section-370-i171
Section-72	Process-Selection	Section-370-i172
Section-73	Sludge-Thickening	Section-370-i173
Section-74	Anaerobic-Sludge-Digestion	Section-370-i174
Section-75	Aerobic-Sludge-Digestion	Section-370-i175
Section-76	Sludge-Pumps-and-Piping	Section-370-i176
Section-77	Sludge-Bevatating	Section-370-i177
Section-78	Sludge-Disposal	Section-370-i178
Section-81	Tricking-Filters	Section-370-i181
Section-82	Rotating-Biological-Contactors	Section-370-i182
Section-93	Activated-Sludge	Section-370-i183
Section-94	Waste-Stabilization-Ponds---and Aerated-Bagoons	Section-370-i184
Section-95	Intermittent--Sand--Filtration for--Secondary-Treatment	Section-370-i185
Section-91	General	Section-370-i191
Section-92	Methods-for-Bioinfection	Section-370-i192
Section-93	Feed-Equipment	Section-370-i193
Section-94	Chlorine-Gas-Supply	Section-370-i194
Section-95	Piping-and-Connections	Section-370-i195
Section-96	Housing	Section-370-i196
Section-97	Respiratory-----Protection Equipment	Section-370-i197
Section-98	Application-of-Chlorine	Section-370-i198
Section-99	Sampling-and-Testing	Section-370-i199
Section-101	Applicability	Section-370-i201
Section-102	Type	Section-370-i202
Section-103	High-Rate-Filtration	Section-370-i203
Section-104	Intermittent-Sand-Filters	Section-370-i204
Section-111	Phosphorus-Removal-by-Chemical Treatment	Section-370-i211
Section-112	Ammonia-Control	Section-370-i212

(Source: Repealed at 20 Ill. Reg. _____, effective _____)

DEPARTMENT OF INSURANCE

NOTICE OF PROPOSED RULES

- 1) Heading of the Part: Examination and Audit Procedure
- 2) Code Citation: 50 Ill. Adm. Code 4401
- 3)

<u>Section Numbers:</u>	<u>Proposed Action:</u>
4401.10	New Section
4401.20	New Section
4401.30	New Section
4401.40	New Section
4401.50	New Section
4401.60	New Section
4401.70	New Section
- 4) Statutory Authority: Implementing Section 22-502 and authorized by Section 22-501.1 of the Illinois Pension Code [40 ILCs 5/22-501.1 and 22-502].
- 5) A Complete Description of the Subjects and Issues Involved: The Department has recently conducted an internal review of Part 6301 and determined that several provisions contained therein are obsolete. Therefore, the Department is repealing Part 6301.

Part 4401 will replace Part 6301. Part 4401 will better clarify the uniform procedures established for examinations, compliance with examinations, hearings and other matters related to examinations and audits.
- 6) Will this proposed Rule replace emergency rule currently in effect? No
- 7) Does this Rule contain an automatic repeal date? No
- 8) Does this proposed Rule contain incorporations by reference? No
- 9) Are there any other proposed amendments pending on this Part? No
- 10) Statement of Statewide Policy Objectives: This rule will not require a local government to establish, expand or modify its activities in such a way as to necessitate additional expenditures from local revenues.
- 11) Time, Place, and Manner in which interested persons may comment on this proposed rulemaking: Persons who wish to comment on this proposed rulemaking may submit written comments no later than 45 days after the publication of this Notice to:

Eve Blackwell

Staff Attorney

Department of Insurance

320 West Washington

Mary Meyer

Paralegal

Department of Insurance

(or) 320 West Washington

DEPARTMENT OF INSURANCE

NOTICE OF PROPOSED RULES

TITLE 50: INSURANCE

CHAPTER 1: DEPARTMENT OF INSURANCE

SUBCHAPTER 1ff: PENSIONS

PART 4401

EXAMINATION AND AUDIT PROCEDURE

Section	Purpose
4401.10	4401.10 Purpose
4401.20	4401.20 Applicability
4401.30	4401.30 Pre-Audit and Examination Procedures
4401.40	4401.40 Audit and Examination
4401.50	4401.50 Post-Audit and Examination Procedures
4401.60	4401.60 Audit and Examination Hearings
4401.70	4401.70 Compliance

AUTHORITY: Implementing Section 22-502 and authorized by Section 22-501.1 of the Illinois Pension Code [40 ILCS 5/22-501.1 and 22-502].

SOURCE: Adopted at 20 Ill. Reg. _____, effective _____,

Section 4401.10 Purpose

The purpose of this Part is to establish uniform procedures for examination, compliance with examination, hearings and other matters related to examinations and audits.

Section 4401.20 Applicability

This Part shall apply to Articles 3 (Police Pension Fund - Municipalities 500,000 and Under) and 4 (Firefighter's Pension Fund - Municipalities 500,000 and Under) pension, annuity or retirement funds or systems under the regulatory authority of the Department of Insurance, which are not financed in whole or in part by funds of the State of Illinois, pursuant to Section 22-501 of the Illinois Pension Code [40 ILCS 5/22-501].

Section 4401.30 Pre-Audit and Examination Procedures

- a) Pursuant to Section 22-502 of the Pension Code [40 ILCS 5/22-502], each pension fund or retirement system under the Illinois Pension Code shall be subject to periodic examinations or audits on behalf of the Illinois Department of Insurance.
- b) Notification of an impending examination or audit will be given through the issuance of a "Warrant of Examiners." This Warrant of Examiners shall state the name of the pension fund or retirement system which will be examined, and will identify the examiner appointed to perform the examination or audit.

DEPARTMENT OF INSURANCE

NOTICE OF PROPOSED RULES

Springfield, IL 62767
(217) 785-8220

12) Initial Regulatory Flexibility Analysis: This rule will not affect small municipalities as that term is defined in Section 1-80 of the Illinois Administrative Procedure Act [5 ILCS 100/1-80].

13) Regulatory Agenda on which this Rule was summarized: This rule was not summarized on either of the 2 most recent agendas because: It was included on the January 1995 agenda.

The full text of the Proposed Rule begins on the next page:

DEPARTMENT OF INSURANCE

NOTICE OF PROPOSED RULES

- c) The Warrant of Examiners may also be accompanied by a letter, which shall set a tentative date for a review of the books and other documentation, as well as a request for materials which are to be sent by the pension fund or retirement system to the attention of the examiner within 14 days after receipt of said letter. In preparing for the examination or audit, the Department of Insurance examiner shall have access to all books, records, files, documents and other relevant materials deemed necessary by the Department of Insurance to assist in the completion of such examination or audit.
- d) All requests for an extension of time in providing the requested documents shall be sent to the examiner listed in the warrant at least seven business days before the scheduled deadline.

Section 4401.40 Audit and Examination

- a) All audits and examinations, except under special circumstances, shall be made on site, to insure that all books, documents and other relevant procedures can be made readily available to the examiner. During the audit or examination, the examiner may look at all aspects of the pension fund's or retirement system's business. This includes verification of the existence of administrative rules, policies and procedures, verification of the participants in the fund and all information related to the participants, business affairs and expenditures of the pension board, including pension payments and investment holdings and procedures, the appointment and election of trustees, as well as any other relevant issues or procedures.
- b) Desk audits will be performed for each fund, following the timely submission of the annual statement filing. In addition, desk audits may be performed at any time on a pension fund.
- c) Situations may arise which require the Department to perform special examinations. These examinations are limited to specific areas of concern by the Department. The authority of the examiner when conducting a special examination shall be the same authority which is granted to the examiner in the performance of a general or full examination or audit.
- d) The majority of the audits and examinations will be performed directly by members of the Department of Insurance-Pension Division's staff. However, in the event that an outside auditor or examiner is hired, such person shall be given all the rights and powers held by an employee of the Department of Insurance.

Section 4410.50 Post-Audit and Examination Procedures

- a) Following an examination or audit, the examiner may request further information be provided by the pension fund or retirement system. Such information shall be provided within two weeks or within the time frame agreed to by the pension fund or retirement system and the Department of Insurance. At any time, the Pension Division may refer

DEPARTMENT OF INSURANCE

NOTICE OF PROPOSED RULES

- investigatory information to the Illinois Attorney General's Office.
- b) Once all relevant information has been received and reviewed, the examiner will prepare a written report detailing the status of the pension fund's or retirement system's compliance with the policies, procedures and laws applicable to it. This report shall be known as the report of examination. A copy of the report of examination will be sent to the secretary of the pension fund or retirement system. The fund will then have 30 days after the date of receipt of the report to review it and make any request for a hearing based on the facts contained in the examination report.
- c) After 30 days, if no hearing is requested, the examination report shall be officially filed with the Department of Insurance and the contents shall thereafter be considered public information. At this time an order shall be entered by the Director of Insurance which requires compliance where it is determined that the pension fund or retirement system has violated the policies, procedures and laws of the State of Illinois. In response, action must be taken to comply with the findings of the examination report as detailed in the order or within 15 business days, whichever period is shorter.

Section 4401.60 Audit and Examination Hearings

- a) Hearings requested pursuant to this Part are limited to the accuracy of the facts contained in the report of examination.
- b) All requests for a hearing shall be made in writing and delivered to the Pension Division of the Illinois Department of Insurance. Such request shall be received within 30 days after the day that the pension fund or retirement system received the report of examination. Such requests shall identify the specific findings that are in dispute.
- c) Once a timely request is received by the Department, the Department will issue a notice of hearing. All hearings will be scheduled to be held no sooner than 20 days, but no later than 30 days, after receipt of the request, and will be held in the offices of the Department of Insurance.
- d) All hearings will be conducted in accordance with Illinois Administrative Hearing Procedures as outlined in 50 Ill. Adm. Code 2402.

Section 4401.70 Compliance

- a) The findings of the Director of Insurance will be made public in a written order following the hearing. The findings will indicate whether or not an order of compliance is necessary. The order of compliance may be made part of the Director's final order in the hearing. Compliance with this order shall be performed within the time frame specified in the order; however, the time frame should not exceed 15 business days following the entrance of the order.

DEPARTMENT OF INSURANCE

NOTICE OF PROPOSED RULES

- 1) The Director of Insurance may, at his/her discretion, give written notice to the governing body, officer or official of the pension fund or retirement system of specific matters or issues wherein non-compliance is alleged.
- 2) If the Director of Insurance does not receive evidence that compliance has been achieved within the 15 days following receipt of the notice, then an order to show cause shall be issued to the governing body, officer or official.
- 3) The Order to Show Cause shall be accompanied by a Notice of Hearing, setting forth a hearing date. The Director of Insurance shall issue an order of his/her findings. If noncompliance continues, orders may be issued and fines may be assessed.
- 4) Compliance and evidence thereof should be delivered to the Director of Insurance within 30 days after the entrance of the order, or the pension fund or retirement system should initiate an action for administrative review.
- 5) If the pension fund or retirement system is unable to meet the deadline for compliance, then the governing body, officer or official should send a certified statement to the Director of Insurance which sets forth the steps to be taken to insure full compliance and the expected day of full compliance.
- b) If no action is taken to comply with the Director's Order and no action for administrative review is timely initiated, then the Director of Insurance may assess a civil penalty against the governing body, officer or official of the pension fund or retirement system. A civil penalty may also be assessed if full compliance with the Director's Order is not achieved as stated within the time frame specified in the certified statement of the governing body, officer or official. This fine shall be \$50 for each day in which the entity continues to be out of compliance, beyond the 30 day time period allowed. In no event shall the amount of such civil penalty exceed \$1,000 per compliance issue.
- c) All fines not paid within 30 days after the assessment may, at the Director of Insurance's discretion, be turned over to the Illinois Attorney General with a request for judicial action for compliance and satisfaction.

DEPARTMENT OF INSURANCE

NOTICE OF PROPOSED REPEALER

- 1) Heading of the Part: Pension and Examination Procedure
- 2) Code Citation: 50 Ill. Adm. Code 6301
- 3)

<u>Section Numbers:</u>	<u>Proposed Action:</u>
6301.10	Repealed
6301.20	Repealed
6301.30	Repealed
6301.40	Repealed
EXHIBIT A	Repealed
EXHIBIT B	Repealed
EXHIBIT C	Repealed
EXHIBIT D	Repealed
EXHIBIT E	Repealed
EXHIBIT F	Repealed
- 4) Statutory Authority: Implementing and authorized by Section 22-501.1 of the Illinois Pension Code [40 ILCS 5/22-501.1].
- 5) A Complete Description of the Subjects and Issues Involved: The Department has recently conducted an internal review of Part 6301 and determined that several provisions contained therein are obsolete. Therefore, the Department is repealing Part 6301.

Part 4401 will replace Part 6301. Part 4401 will better clarify the uniform procedures established for examinations, compliance with examinations, hearings and other matters related to examinations and audits.
- 6) Will this proposed Repealer replace emergency rule currently in effect?
No
- 7) Does this Repealer contain an automatic repeal date? No
- 8) Does this proposed Repealer contain incorporations by reference? No
- 9) Are there any other proposed amendments pending on this Part? No
- 10) Statement of Statewide Policy Objectives: This repealer will not necessitate that local government establish, expand or modify its activities in such a way as to necessitate additional expenditures from local revenues.
- 11) Time, Place, and Manner in which interested persons may comment on this proposed rulemaking: Persons who wish to comment on this proposed rulemaking may submit written comments no later than 45 days after the publication of this Notice to:

DEPARTMENT OF INSURANCE

NOTICE OF PROPOSED REPEALER

Eve Blackwell, Staff Attorney
 Department of Insurance
 320 West Washington (or)
 Springfield, IL 62767
 (217) 524-1634

Mary Meyer, Paralegal
 Department of Insurance
 320 West Washington
 Springfield, IL 62767
 (217) 785-8220

12) Initial Regulatory Flexibility Analysis: This repealer will not affect small municipalities.

13) Regulatory Agenda on which this Repealer was summarized: This rulemaking was not included on either of the 2 most recent agendas because: It was on the January 1995 agenda.

The full text of the Proposed Repealer begins on the next page:

DEPARTMENT OF INSURANCE

NOTICE OF PROPOSED REPEALER

TITLE 50: INSURANCE
 CHAPTER I: DEPARTMENT OF INSURANCE
 SUBCHAPTER Iff: PENSIONS

PART 6301

PENSION AND EXAMINATION PROCEDURE (REPEALED)

Section	
6301.10	Authority
6301.20	Scope
6301.30	Examinations
6301.40	Hearings
EXHIBIT A	Summary of Procedures Letter
EXHIBIT B	Examiners' Comments Letter
EXHIBIT C	Request for Evidence of Compliance Letter
EXHIBIT D	Pension Fund Examination Letter
EXHIBIT E	Failure to Comply Letter
EXHIBIT F	Notice of Hearing Letter

AUTHORITY: Implementing and authorized by Section 22-501.1 of the Illinois Pension Code (Ill. Rev. Stat. 1987, ch. 108 1/2, par. 22-501.1).

SOURCE: Adopted at 4 Ill. Reg. 37, p. 786, effective September 3, 1980; codified at 7 Ill. Reg. 905; amended at 13 Ill. Reg. 1780, effective February 1, 1989; repealed at 20 Ill. Reg. _____, effective _____.

Section 6301.10 Authority

This Part is promulgated by the Director of Insurance of the State of Illinois pursuant to Section 22-501.1 of the Illinois Pension Code (Ill. Rev. Stat. 1981, ch. 108 1/2, par. 22-501.1) which empowers the Director "...to make reasonable rules and regulations...as may be necessary for making effective and implementing the provisions of the Pension Code..." The purpose of this Part is to establish uniform procedures for examination, compliance with examination, annual financial reports, hearing and other matters.

Section 6301.20 Scope

This Part shall apply to all pension, annuity or retirement funds or systems with less than 500 participants not financed in whole or in part by funds of the State of Illinois.

Section 6301.30 Examinations

- a) Each fund or system shall be subject to periodic examinations as provided for by Section 22-502 of the Pension Code. Each fund or system shall provide all books, records, documents, files and other

DEPARTMENT OF INSURANCE

NOTICE OF PROPOSED REPEALER

relevant memoranda to the persons conducting the examination upon request and shall assist in the examination as necessary.

- b) Upon completion of the examination and prior to the preparation of the report of examination, each fund or system examined shall receive a letter signed by the examiner in charge of the examination detailing the procedures to be followed in publishing the report of examination and to obtain compliance with the Pension laws. (Exhibit A-1 through A-4)

- c) The procedure to be followed to publish a report of examination:

- 1) A copy of the examination report shall be submitted to the secretary of the governing board of each fund or system examined. The governing board of the fund or system shall have 30 days from the date of receipt of the report to request, in writing, a hearing. If a hearing is requested, it shall be conducted in accordance with Section 6301.40 of this Part. The sole issue will be accuracy of facts contained in the report of examination.
- 2) If no request for hearing is made or after a hearing and the entry of an order, the report examination shall be filed and the contents are then public information.

- 3) Upon the filing of the report of examination, the Director shall enter an order requiring compliance with the Pension laws, if necessary. The Order shall set forth all areas wherein compliance is necessary and shall provide for a time period, not longer than 15 days, by which compliance must be made. (Exhibit B)

- d) The procedure to be followed for compliance, where necessary:

- 1) If compliance with the Director's Order is not accomplished in the time required, a Notice of Hearing shall be sent to each fund or system not in compliance. (Exhibit C)
- 2) The hearing shall be held in Springfield and shall be conducted in accordance with the procedures set forth in Section 6301.40 of this Rule.

- 3) The Director as the result of the hearing shall Order compliance within 30 days of his Order in those areas found not to be in compliance. Failure to comply or initiate an administrative review action within the 30 day time period will require the Director to assess a civil penalty against the governing body, officer or official of the fund or system in the amount of \$50 for each day such noncompliance continues beyond the 30 day time period allowed for compliance. In no event shall the amount of such civil penalty exceed \$1,000. If the Director receives, prior to the expiration of the 30 day time period, the certified statement of the governing body, officer or official, setting forth the steps to be taken to obtain full compliance and the expected date of full compliance, then the civil penalty shall be stayed until the specified date. If full compliance is not obtained by that date the civil penalty of \$50 a day shall be assessed as set forth above.

DEPARTMENT OF INSURANCE

NOTICE OF PROPOSED REPEALER

- 4) If the Order of the Director is not satisfied and the fine not paid within 30 days of the assessment, the Director shall report the noncompliance to the Attorney General and request judicial action for compliance.

Section 6301.40 Hearings

- a) All hearings provided for in this Part or by Sections 22-502 or 22-509 of the Pension Code shall be conducted in accordance with Administrative Hearing Procedures (50 Ill. Adm. Code 2402) of the Illinois Department of Insurance.

- b) All hearings not governed by the provisions of Section 6301.30(c) of this Part shall be governed by the following procedures:

- 1) The Director shall give written notice to the governing body, officer or official of the fund or system of the specific provision(s) of law under which noncompliance is alleged.
- 2) If the Director does not receive within a reasonable time not to exceed 15 days, evidence that compliance is being achieved, he shall issue an Order to Show Cause to the governing body, officer or official to appear and show good and sufficient cause for the noncompliance.
- 3) If after hearing the Director finds insufficient cause for the noncompliance alleged he may issue orders and assess civil penalties as permitted by Section 6301.30 (d) (3) of this Part.

DEPARTMENT OF INSURANCE

NOTICE OF PROPOSED REPEALER

Section 6301.EXHIBIT A Summary of Procedures Letter

Secretary

Pension Fund
 _____, Illinois

Dear Secretary:

The Pension Division has concluded the on-site phase of the examination. The next step is the drafting of a report of examination and the filing of that report. The following is a summary of the procedures employed by the Division:

1. A draft of the report will be mailed to you, and you will then have 30 days to comply with any deficiencies noted in the summary or request a hearing if you disagree with the FACTS of the report.
 2. If you request a hearing, a notice of the time, place and date will be forwarded to you.
 3. If the Board has not responded to the submission letter within 30 days, the report will be filed and a Compliance Order may be issued.
 4. If a Compliance Order is issued and is not satisfied, within 15 days an administrative hearing will be held, a fine may be assessed and the Attorney General may be asked to seek a court order of compliance.
- Should you have any question, please contact the Supervisor of the Pension Division in writing.

Very truly yours,

Examiner

(Source: Amended at 13 Ill. Reg. 1780, effective February 1, 1989)

DEPARTMENT OF INSURANCE

NOTICE OF PROPOSED REPEALER

Section 6301.EXHIBIT A-2 Examiners' Comments Letter

Enclosed is a copy of the report covering the recent examination of your Pension Fund.

We wish to call your attention to the examiners' findings in the summary of your report. Particular attention should be given by the Board to item(s) number _____ in the summary.

In reference to the examiners' comments made in the summary, a letter should be directed to my attention no later than 30 days from the date of this letter stating whether or not the Board agrees with the findings of the examiners. If they do agree please state precisely how the Board proposes to implement the necessary changes. This letter should cover each item mentioned in the summary.

If the Board disagrees or cares to object to these findings, the Director of Insurance, upon request, shall grant a hearing to the officers of Trustees of the Fund or their duly appointed representatives before making public the enclosed examination report. If a hearing is requested, the facts of the report will be the sole issue and the hearing will be conducted in accordance with the Pension Division Rule.

If no comment is received within this prescribed period, the report will be filed as public record as now stated.

Should you want to discuss any matter contained in this report, we shall be pleased to make an appointment for that purpose or you may feel free to call me personally in Springfield at (217) 782-7542.

In addition to the examination report, also enclosed is a certificate which should be signed by each of the Fund's Trustees and returned to this office along with a letter containing the Board's comments.

Your cooperation in this regard will be appreciated, as we wish to assure ourselves that all the Trustees have knowledge of the condition of the Fund as disclosed by the report of examination.

Very truly yours,

Enclosure

Assistant Deputy Director

DEPARTMENT OF INSURANCE

NOTICE OF PROPOSED REPEALER

Section 6301.EXHIBIT A-3 Request for Evidence of Compliance Letter

Date _____

Dear Mr. _____:

Enclosed, herewith, are copies of the report covering the recent examination of the _____ Pension Fund for _____, Illinois, which now has been filed as an official record of this Department. Each Trustee is to receive a copy of this report.

Since no response was received from the Board to my letter of _____, which was submitted along with the initial draft of the report, it is assumed that the Board agreed with the exceptions noted in the summary of the report and steps have been taken to correct each problem area. In this connection the Trustees' attention is directed to the "compliance notice" located just behind the Director's letter in the front of the report.

Please respond in writing within fifteen (15) days from the date of this letter to confirm that the Fund has complied with each item listed in the "compliance notice."

If the Division has not received satisfactory evidence of compliance within 15 days as required by the Director's order, the Division may without further notice issue a Notice of Hearing pursuant to Section 22-509 of the Illinois Pension Code.

Very truly yours,

Assistant Deputy Director

Enclosure

DEPARTMENT OF INSURANCE

NOTICE OF PROPOSED REPEALER

Section 6301.EXHIBIT A-4 Pension Fund Examination Letter

City Clerk
City Hall
_____, Illinois

Dear Sir:

Enclosed, herewith, is one copy of the report covering the recent examination of the _____ Pension Fund for _____, Illinois, which now has been filed as an official record of this Department. This copy is to be submitted to the City Council at its next meeting following receipt of this report.

We particularly call your attention to the comments of the examiners contained in the summary of this examination report, and should you want to discuss any of these matters we shall be pleased to do so by appointment. We particularly call your attention to the "compliance notice" located just behind the Director's letter in the front of the report. Should you want to discuss any of these matters, we shall be pleased to do so by appointment.

Very truly yours,

Assistant Deputy Director

Enclosure

DEPARTMENT OF INSURANCE

NOTICE OF PROPOSED REPEALER

Section 6301.EXHIBIT B Failure to Comply Letter

Based on the following report of examination of the _____ Pension Fund, and pursuant to the powers and duties vested in the Public Employee Pension Division as set forth in Sections 22-501 through 22-509 of the Illinois Pension Code and the Board of Trustees is notified that the _____ PENSION FUND has failed to comply with the applicable sections of the Illinois Pension Code, and must take immediate steps to comply with the provisions of law as set forth below:

DEPARTMENT OF INSURANCE

NOTICE OF PROPOSED REPEALER

Section 6301.EXHIBIT C Notice of Hearing Letter

Secretary

Pension Fund
_____, Illinois

Dear Secretary:

The Director of Insurance issued an Order dated _____, 19____ requiring _____ Pension Fund undertake certain actions to obtain compliance with certain aspects of the Illinois Pension laws. The Pension Division has not received satisfactory evidence of compliance as required by the Director's Order.

Please find enclosed a Notice of Hearing pursuant to Section 22-509 of the Illinois Pension Code. The hearing is being held to have the Fund show cause why compliance has not been accomplished.

Very truly yours,

Enclosure

Assistant Deputy Director

DEPARTMENT OF NATURAL RESOURCES

NOTICE OF PROPOSED AMENDMENT

1) Heading of the Part: Duck, Goose and Coot Hunting

2) Code Citation: 17 Ill. Adm. Code 590

3) Section Numbers: Proposed Action:

590.10 Amendments

590.60 Amendments

590.80 Amendments

4) Statutory Authority: Implementing and authorized by Sections 1.3, 1.4, 1.13, 2.1, 2.2, 2.18, 2.19, 2.20, 2.23, 2.33, 3.5, 3.6, 3.7, 3.8, and 3.10 of the Wildlife Code [520 ICS 5/1.3, 1.4, 1.13, 2.1, 2.2, 2.18, 2.19, 2.20, 2.23, 2.33, 3.5, 3.6, 3.7, 3.8, and 3.10], and Migratory Bird Hunting (50 CFR 20, effective September 26, 1990).

5) A. Complete Description of the Subjects and Issues Involved: This Part is being amended to close portions of Union and Alexander Counties to snow goose hunting during the February-March hunting season. This will prevent hunters from being placed in jeopardy or violating federal baiting regulations near two State refuges where corn will be moved to feed Canada geese.

6) Will this rulemaking replace any emergency rulemaking currently in effect?
No

7) Does this rulemaking contain an automatic repeal date? No

8) Does this rulemaking contain incorporations by reference? No

9) Are there any other proposed rulemakings pending on this Part? No

10) Statement of Statewide Policy Objectives: This rulemaking does not affect units of local government.

11) Time, Place and Manner in which interested persons may comment on this proposed rulemaking: Comments on the proposed rule may be submitted in writing for a period of 45 days following publication of this notice to:

Jack Price
Department of Natural Resources
524 S. Second Street
Springfield, IL 62701-1787
217/782-1809

12) Initial Regulatory Flexibility Analysis: This rulemaking does not affect units of local government.

13) Regulatory Agenda on which this rulemaking was summarized: January 1996

DEPARTMENT OF NATURAL RESOURCES

NOTICE OF PROPOSED AMENDMENT

The full text of the Proposed Amendment begins on the next page:

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NOTICE OF PROPOSED AMENDMENT

TITLE 17: CONSERVATION
CHAPTER I: DEPARTMENT OF NATURAL RESOURCES
SUBCHAPTER b: FISH AND WILDLIFE

PART 590

DUCK, GOOSE AND COOT HUNTING

Section

- 590.10 Statewide Regulations
590.15 Duck, Goose and Coot General Hunting Regulations on all Department-Owned and -Managed sites
590.20 Permit Controlled Department Sites Only - Duck, Goose and Coot Hunting
590.25 Illinois Youth Waterfowl Hunting Permit Requirements
590.26 Illinois Youth Duck Hunting Permit Requirements (Repealed)
590.30 Duck, Goose and Coot General Hunting Regulations on all Department-Owned and -Managed Sites (Repealed)
590.40 Check Station Department Sites Only - Duck, Goose and Coot Hunting
590.50 Non-Check Station Department Sites Only - Duck, Goose and Coot Hunting
590.60 Various Other Department Sites - Duck, Goose and Coot Hunting
590.70 Ohio River
590.80 Early and Late Goose (all species) Hunting Regulations on Department Sites

EXHIBIT A The Non-Toxic Shot Zones of Illinois (Repealed)

AUTHORITY: Implementing and authorized by Sections 1.3, 1.4, 1.13, 2.1, 2.2, 2.18, 2.19, 2.20, 2.23, 3.3, 3.6, 3.7, 3.8, and 3.10 of the Wildlife Code [520 ILCS 5/1.3, 1.4, 1.13, 2.1, 2.2, 2.18, 2.19, 2.20, 2.23, 3.3, 3.6, 3.7, 3.8, and 3.10], and Migratory Bird Hunting (50 CFR 20, effective September 26, 1990).

SOURCE: Adopted at 5 Ill. Reg. 8857, effective August 25, 1981; emergency amendment at 5 Ill. Reg. 11386, effective October 14, 1981, for a maximum of 150 days; codified at 5 Ill. Reg. 10638; Part repealed at 6 Ill. Reg. 9647, effective July 21, 1982; new Part adopted at 6 Ill. Reg. 11865, effective September 22, 1982; amended at 7 Ill. Reg. 13223, effective September 28, 1983; emergency amendment at 7 Ill. Reg. 13948, effective October 6, 1983, for a maximum of 150 days; emergency expired March 3, 1984; amended at 8 Ill. Reg. 18968, effective September 26, 1984; amended at 9 Ill. Reg. 14242, effective September 5, 1985; peremptory amendment at 9 Ill. Reg. 15062, effective September 25, 1985; emergency amendment at 9 Ill. Reg. 15928, effective October 8, 1985, for a maximum of 150 days; emergency expired March 5, 1986; amended at 10 Ill. Reg. 16588, effective September 22, 1986; emergency amendment at 10 Ill. Reg. 17773, effective September 26, 1986, for a maximum of 150 days; emergency expired February 23, 1987; amended at 11 Ill. Reg. 10560, effective May 21, 1987; emergency amendment at 11 Ill. Reg. 15242, effective August 28, 1987, for a maximum of 150 days; emergency expired January 25, 1988; amended at 12 Ill. Reg. 12200, effective July 15, 1988; emergency amendment at 12 Ill. Reg. 16233, effective September 23, 1988, for a maximum of 150 days; emergency

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expired February 20, 1989; emergency amendment at 12 Ill. Reg. 22244, effective December 7, 1988, for a maximum of 150 days; emergency expired May 6, 1989; amended at 13 Ill. Reg. 10525, effective June 20, 1989; amended at 13 Ill. Reg. 14925, effective September 7, 1989; emergency amendment at 13 Ill. Reg. 16579, effective October 4, 1989, for a maximum of 150 days; emergency expired March 3, 1989; amended at 13 Ill. Reg. 17354, effective October 27, 1989; amended at 14 Ill. Reg. 638, effective January 2, 1990; amended at 14 Ill. Reg. 13529, effective August 13, 1990; emergency amendment at 14 Ill. Reg. 17029, effective September 26, 1990, for a maximum of 150 days; emergency expired February 23, 1991; amended at 15 Ill. Reg. 1487, effective January 22, 1991; amended at 15 Ill. Reg. 13293, effective September 3, 1991; emergency amendment at 15 Ill. Reg. 16745, effective November 5, 1991, for a maximum of 150 days; emergency expired April 3, 1992; amended at 16 Ill. Reg. 570, effective December 31, 1991; amended at 16 Ill. Reg. 12491, effective July 28, 1992; emergency amendment at 16 Ill. Reg. 16672, effective October 15, 1992, for a maximum of 150 days; emergency expired March 9, 1993; emergency amendment at 16 Ill. Reg. 18851, effective November 17, 1992, for a maximum of 150 days; emergency expired April 11, 1993; emergency amendment at 17 Ill. Reg. 1658, effective January 20, 1993, for a maximum of 150 days; emergency expired June 14, 1993; amended at 17 Ill. Reg. 16443, effective September 27, 1993; emergency amendment at 17 Ill. Reg. 18867, effective October 14, 1993, for a maximum of 150 days; emergency expired March 13, 1994; amended at 18 Ill. Reg. 10023, effective June 21, 1994; emergency amendment at 18 Ill. Reg. 15161, effective September 27, 1994, for a maximum of 150 days; emergency expired February 23, 1995; amended at 19 Ill. Reg. 13209, effective September 11, 1995; amended at 20 Ill. Reg. 754, effective December 29, 1995; recodified by changing agency name from Department of Conservation to Department of Natural Resources at 20 Ill. Reg. 9389; amended at 20 Ill. Reg. 12417, effective August 30, 1996; amended at 20 Ill. Reg. _____, effective _____.

Section 590.10 Statewide Regulations

- a) Pursuant to Section 2.18 of the Wildlife Code [520 ILCS 5/2.18], it shall be unlawful to take, possess, transport, or use migratory waterfowl except during such period of time and in such manner and numbers as may be provided in the Federal "Migratory Bird Treaty Act" (16 U.S.C. 703-711), the "Migratory Bird Hunting Stamp Act" (16 U.S.C. 1718 et seq.), and annual "Rules and Regulations for Migratory Bird Hunting" (50 CFR 20) (collectively referred to in this Part as federal regulations) (no incorporation in this Part includes later amendments or editions), or contrary to any State regulations made in the Wildlife Code.
- b) The regulations in Section 2.33 of the Wildlife Code on illegal devices shall apply to this rule, unless federal regulations are more restrictive.
- c) Duck, goose and coot regulations are in accordance with Federal Regulations (50 CFR 20) unless the regulations in this rule are more restrictive.

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- d) It shall be unlawful while attempting to take migratory waterfowl or coots to have in possession any shotgun shells not approved as non-toxic by federal regulations.

e) Emergency Closure

The Department of Natural Resources (Department or DNR) will close the Canada goose season giving 48 hours notice when quotas established by federal regulations are reached, when harvest in any area is excessive due to extreme weather conditions or when a serious outbreak of infectious disease occurs, such as avian cholera or duck virus enteritis.

f) Closed Areas

Closed areas, including waterfowl refuges and rest areas, may be designated at certain sites in accordance with 17 Ill. Adm. Code 510. Boundaries of these closed areas will be posted.

g) Commercial Migratory Waterfowl Hunting Area Permits

- 1) The holder of a permit shall forward information on harvest and hunters to the Department, on forms furnished by the Department, at times required by the Department. The Department shall give the permit holder reasonable written notice of the dates reports are required. Failure to timely supply such reports will make the permit holder subject to revocation of his permit and suspension of the privilege to hold the permit for up to 5 years.
- 2) On any property where the principal waterfowl harvest is wild geese, it is the permit holder's duty to ensure that not more than 5 persons occupy or attempt to take wild geese from any blind or pit at the same time.

- 3) The Department may assign the maximum potential Canada goose harvest (number registered pits x 5 hunters x Canada goose bag limit) to the cumulative quota zone harvest for each day a club is late in reporting.

h) Waterfowl Hunting Zones:

- 1) Northern Zone - That portion of the State north of a line running east from the Iowa border along Illinois Route 92 to U.S. Interstate 280, east along U.S. Interstate 280 to U.S. Interstate 80, then east along U.S. Interstate 80 to the Indiana border.

- 2) Northern Illinois Quota Zone - Dupage, Kane, Lake, and McHenry counties, and those portions of LaSalle and Will counties north of I-80.

- 3) Central Zone - That portion of the State south of the northern zone boundary to the Modoc Ferry route on the Mississippi River and east along the Modoc Ferry Road to Modoc Road to St. Leo's Road to Illinois Route 3, then north to Illinois Route 159, then north to Illinois Route 161, then east to Illinois Route 4, then north to U.S. Interstate 70, then east along U.S. Interstate 70 to the Bond County line, north and east along the Bond County line to Fayette County, north and east along the Fayette County line to Effingham County, east and south along the Effingham County line to U.S. Interstate 70, then east along U.S.

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- 4) Interstate 70 to the Indiana border.
Central Illinois Quota Zone - Calhoun, Cass, Fulton, Jersey, Knox, Mason, Morgan, Peoria, Pike, Tazewell, and Woodford counties, as well as those portions of LaSalle, Grundy, and Will counties south of I-80.

- 5) Southern Zone - From the southern boundary of the Central Zone south to the remainder of the State.

- 6) Fulton-Knox County Canada Goose Zone - Knox County and the following townships in Fulton County: Buckheart, Canton, Cass, Deerfield, Fairview, Farmington, Joshua, Orion, Putnam, and that portion of Banner Township bounded on the north by Illinois Route 9 and on the east by U.S. Route 24.

- 7) Rend Lake Canada Goose Quota Zone - all lands and waters in Franklin and Jefferson Counties.

- 8) Northeastern Illinois Canada Goose Zone - All lands and waters in the counties of Cook, Dupage, Grundy, Kankakee, Kane, Kendall, Lake, McHenry and Will.

- 9) Southern Illinois Quota Zone - Alexander, Union, Williamson, and Jackson Counties.

- i) No person during the open season shall take or attempt to take wild geese in the Rend Lake Canada Goose Quota Zone and Southern Illinois Quota Zone except between legal opening and the hour of 3:00 p.m. except during the last three days of the Canada goose season and during any goose seasons that occur after the Canada goose season, hunting hours shall close at sunset daily.

- j) On any property where the principal waterfowl harvest is wild geese in the Rend Lake Canada Goose Quota Zone and the Southern Illinois Quota Zone, no more than 5 persons shall occupy or attempt to take wild geese from any blind or pit at the same time.

- k) The following apply in the Northern and Central Illinois Quota Zones:
1) It is unlawful to hunt Canada geese during seasons starting after September 30 without having in possession a current season's permit to hunt Canada geese, unless exempt from a State waterfowl stamp. Such permits are not transferrable and are not valid unless they contain the hunter's name, signature, date of birth, and the same State waterfowl stamp number that is on the State waterfowl stamp that is signed by the hunter or affixed to his/her license.

- 2) Immediately upon taking possession of a harvested Canada goose, hunters must punch or slit the permit to hunt to indicate the date of kill (one date for each goose harvested).
- 3) Hunters must report their kill within 24 hours by calling 1-800-WETLAND (938-5263). Hunters must report the number of geese taken, date and zone where taken.

- l) During any goose seasons that occur after the close of the Canada goose season the following areas within Union and Alexander Counties are closed to goose hunting:

- 1) Alexander County - that area encompassed by a line beginning at

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the intersection of Len Small Levee Road and Favville Road and extending easterly along Favville Road to State Route 3, easterly along State Route 3 to Railroad Street, northeasterly along Railroad Street to Sandy Ridge Road, easterly along Sandy Ridge Road to State Route 127, southerly along State Route 127 to State Route 3, southerly along State Route 3 to Miller City Road, westerly along Miller City Road to Len Small Levee Road, northwesterly along Len Small Levee Road to the intersection of Favville Road.

- 2) Union County - that area encompassed by a line beginning at the intersection of the Union County/Alexander County Line and State Route 127 and extending westerly along the Union County/Alexander County Line to Mississippi River Levee Road, northerly along the Mississippi River Levee Road to Dam Road, easterly along Dam Road to Ware-Wolf Lake Road, easterly along Ware-Wolf Lake Road to State Route 146, easterly along State Route 146 to State Route 127, southerly along State Route 127 to the Union County/Alexander County Line.

- m) Registration in the U.S. Fish and Wildlife Service Migratory Bird Harvest Information Program (HIP) is required for those persons who are required to have a hunting license before taking or attempting to take ducks, geese or coots. Instructions for registering are provided with issuance of hunting license.

(Source: Amended at 20 Ill. Reg. _____, effective _____)

Section 590.60 Various Other Department Sites - Duck, Goose and Coot Hunting

The sites listed in this Section conform to Statewide Regulations (Section 590.10), General Department Regulations (Section 590.30) and the following regulations, except as noted.

- a) Regulations
- 1) Hunting hours are from legal opening to 1:00 p.m., except hunting shall be permitted until sunset on those sites indicated with by (1) following the location in subsection (b).
 - 2) No permanent blinds allowed; all blinds must be of a portable nature and constructed with natural vegetation at the blind site and no pits can be dug. All materials must be removed or dismantled at the end on the day's hunt.
 - 3) Portable boat blinds must have been completed, including final brushing, before entering the water and must be removed at the end of the day's hunt.
 - 4) Waterfowl hunters must maintain a distance of 200 yards between hunting parties.
 - 5) No hunting is permitted within 200 yards of developed recreation areas, public use facilities, and construction or industrial sites.

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- 6) No check station is operated nor is any check in/check out required, except as indicated in the remainder of this Section.
- 7) It shall be unlawful to trespass upon areas designated as waterfowl rest areas or refuges from two weeks prior to the start of waterfowl season through the waterfowl season except as indicated in the remainder of this Section.
- 8) It shall be unlawful to trespass upon the designated waterfowl hunting area during the 7 days prior to the waterfowl season as posted at the site.

b) Site specific regulations

- 1) Cache River State Natural Area (1)
 - 2) Campbell Pond Wildlife Management Area (1)
 - 3) Carlyle Lake Project Lands and Waters
- A) No one may enter the subimpoundment area to hunt waterfowl before 4:30 along Sandy, each day of the waterfowl hunting season, or remain in the area after 3:00 p.m. each day of the waterfowl hunting season, except during the last 3 days of the Canada goose season and during any goose seasons that occur before or after Canada goose season, hunters must be out of the area by one hour after sunset and not return until 4:30 along Sandy. The subimpoundment area is defined as that area bordered by the Kaskaskia River on the east and south and extending north and west to the Carlyle Lake project boundary, and includes impoundment areas 1, 2, 3, and 4 and the East Side Management Area located east of the Kaskaskia River.
- B) The waters of Carlyle Lake are defined as the lake and that portion of the Kaskaskia River, northfork, eastfork, Peppenhorst Branch and Allen Branch north of the buoys only, and Hurricane Creek that are within the boundaries of the Carlyle Lake property.
- C) Individual float tubes (not to exceed 42" diameter) and capable of supporting only one person may be used.
- D) Only walk-in hunting shall be permitted in the subimpoundment areas. When the water level in the subimpoundment area is too high (due to flooding) to allow walk-in hunting, Department of Natural Resources personnel shall post that the area is open to boats and will designate boat launching locations. Boats and electric trolling motors only are allowed only at these times in the subimpoundment areas.
- E) In the subimpoundment areas, compartment 4 will be a waterfowl rest area during the entire waterfowl season. No hunting within 50 yards of E and F levees which contain subimpoundment 4 is permitted. No trespassing will be allowed, except for hunters boating through the area on the Kaskaskia River along F levee. At the close of duck hunting season, known eagle protection areas will be posted by the

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- Site Superintendent and will be closed to goose hunting.
- F) Each hunting party is required to hunt over a minimum of 12 decoys. Decoys shall not be left out unattended or after 3:00 p.m. each day of the waterfowl season, except during the last 3 days of the Canada goose season and during any goose seasons that occur after Canada goose season, decoys shall not be left out unattended or later than one hour after sunset.
- G) All waterfowl hunters must register prior to hunting each day of the waterfowl hunting season at the nearest registration box located at the access parking lot. All hunters must sign out and record their harvest daily before they exit the area.
- H) The Army Corps of Engineers may build blinds on Corps managed lands and waters for management purposes only.
- I) During the last 3 days of Canada goose season and during any goose seasons that occur after Canada goose season, hunting hours shall close at sunset daily.
- 4) Chauncey Marsh (1)
Permit required, may be obtained at Red Hills State Park Headquarters and must be returned by February 15.
- 5) Clinton Lake (1)
A) Hunters must obtain free permit from site office prior to hunting; hunters must return the permit and report harvest by February 15 of following year or hunting privileges for following season shall be forfeited.
- B) Hunting is allowed only from anchored portable boat blinds except no waterfowl hunting is permitted in the area extending from a line between the west side boat ramp and the southern-most point of the central peninsula to the Davenport Bridge.
- C) No more than 4 persons shall occupy or use a portable boat blind.
- D) Each hunting party is required to hunt over a minimum of 12 decoys.
- E) No hunting is permitted within 300 yards of power lines.
- 6) Dog Island Wildlife Management Area (1)
Hunters must sign in prior to hunting and sign out reporting harvest at end of each day.
- 7) Donnelley State Wildlife Area
A) Hunting is prohibited on Tuesdays and Wednesdays except open on opening day and on the first Sunday immediately preceding the first firearm deer season as set forth in 17 Ill. Adm. Code 650.10 except as indicated in Section 590.25.
- B) Hunting hours start at sunrise.
- C) Goose hunting is prohibited after the close of the duck season.
- D) All hunting shall be from designated blinds only. Refilling

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- or changing blinds is not permitted.
- E) All hunters must report to the check station to fill out an information card and turn in hunting licenses or a legal Owner's Identification Cards before proceeding to blind area.
- F) \$10.00 daily usage stamp must be purchased to hunt this area.
- G) No outboard motors are allowed by public - only by authorized DNR personnel.
- H) No more than 3 persons shall occupy a blind at any one time.
- I) All parties are required to report to check station within 1 hour after termination of hunt or no later than 2:00 p.m.
- J) All parties must hunt over a minimum of 12 decoys and a maximum of 48 decoys can be used, which must be removed upon the termination of the hunt.
- K) The first weekend and the third Saturday of the waterfowl season shall be designated as youth hunt days. This will consist of youth or youths 15 and under plus one adult per blind. There shall be no charge for the youth on these days. Those blinds not allocated to youths shall be available to adults on those days.
- L) One blind shall be made available by priority claim to "disabled" persons (as defined in Section 2.33 of the Wildlife Code).
- 8) Fox Ridge State Park (1)
Hunting restricted to Embarras River and its flood waters.
- 9) Fort de Chartres Historic Site (1)
A) Hunting is allowed from anchored, portable boat blinds only on a first come-first served basis.
- B) Each hunting party is required to hunt over a minimum of 12 decoys which must be removed at the end of each hunting day.
- C) Muzzleloading shotguns only.
- D) No hunting is allowed during firearm deer season.
- 10) Heidecke State Fish and Wildlife Area, Braidwood Fish and Wildlife Area and Powerton Lake
A) Blind sites shall be allocated on a daily draw basis conducted at the check stations 60 minutes before hunting time. Hunters shall register as parties for the drawing; each party drawn shall be allowed to select blind site in order drawn; only those hunters registered in party shall be allowed to hunt with their party; no more than three hunters per party; persons under the age of 16 shall not be allowed to hunt unless accompanied by an adult.
- B) Blind sites not selected during the drawing shall be allocated on a first come-first served basis. Vacant blind sites shall not be allocated after the drawing until one hour after legal hunting time. No blind sites shall be allocated after 10:00 along Sandy. Hunters wishing to move to another blind site must report this move to the check

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- station attendant in person before such a move.
- C) Access to water blind sites must be by boat only and from designated boat launch sites.
- D) All hunting must be from portable boat blinds, within 10 yards of the assigned numbered stake or buoy. No more than 3 persons shall use one blind.
- E) Upon vacating blind sites, all hunters must report to the check station within 1 hour. At this time, waterfowl bagged must be checked in and displayed to the station operator and hunting licenses returned.
- F) Each hunting party is required to hunt over a minimum of 12 decoys. Decoys must be picked up immediately after the hunt is over.
- G) Heidecke Lake and Braidwood Lake shall be closed to all fishing and boat traffic except for legal waterfowl hunters from 2 weeks prior to duck season until the close of the waterfowl season. Powerton Lake shall be closed to boat traffic from October 1 to February 15, except for legal waterfowl hunters, and closed to all unauthorized entry during the waterfowl season.
- H) No hunting on Monday and Tuesday at Heidecke and Braidwood Lakes. No hunting at Powerton Lake on Monday through Thursday except hunting permitted on State holidays.
- I) It is unlawful to hunt waterfowl on the water area in any watercraft less than 16 feet long and 60 inches in beam and without a gas-powered motor.
- J) No guns may be carried from water blinds to retrieve waterfowl that fall on land.
- K) Hunting is closed on Christmas Day and New Year's Day.
- L) All water areas not posted with blind site numbers shall be refuge and are closed to all boat traffic except by authorized personnel.
- M) It is unlawful to shoot across any dike.
- N) Waterfowl hunting shall close with the conclusion of the duck season at Powerton Lake. At Heidecke and Braidwood Lakes waterfowl hunting closes at the end of duck or goose season, whichever is later. No goose hunting is allowed prior to duck season.
- 11) Horseshoe Lake (Alexander County) Daily Drawing Waterfowl Hunting Area Only
- A) Waterfowl hunting shall be permitted only during goose season, except that no hunting is allowed on Mondays, Tuesdays or December 24, 25, 26 and on the day of the Youth Goose Hunt (this site shall be open only for the Illinois Youth Goose Hunt on the first weekday after December 26 other than a Monday, pursuant to Section 590.25).
- B) Hunting shall be done from assigned blinds only.
- C) A daily drawing for assigned blind sites will be held 60

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- minutes prior to legal hunting hours at the check station each day hunting is allowed. For the drawing, hunters must register as a party; no more than two people per party are permitted.
- D) Hunters must deposit their license prior to going to their blinds.
- E) Hunters must park in assigned, designated areas only.
- F) Hunters must hunt over a minimum of 12 Canada goose decoys.
- G) Hunters must return to the check station and report their harvest by 2:00 p.m.
- H) Hunters may not possess more than 5 shells for each Canada goose or subspecies allowed in the daily bag.
- I) Hunters cannot move from blind to blind, nor leave the assigned blind to shoot crippled geese; hunters may leave the assigned blind to retrieve crippled geese, but must leave their guns in the blind.
- 12) Horseshoe Lake (Alexander County) Public Hunting Area
- 13) Horseshoe Lake Refuge (no hunting allowed, no boat motors except trolling motors will be allowed on Horseshoe Lake from October 15 to March 1)
- 14) Kaskaskia River Fish and Wildlife Area
- A) No waterfowl hunters may remain in the area after 3:00 p.m. For those lands lying south of Illinois Route 154 and north of Illinois Route 13, the legal hunting hours shall be from statewide opening hour until statewide closing hour.
- B) All waterfowl hunting parties must use at least 12 decoys. Hunting is allowed on a first come-first served basis.
- C) It is unlawful to leave duck and goose decoys unattended. Decoys must be picked up at the end of each day's hunt.
- D) Between the Highway 13 and Highway 154 bridges, all hunters are required to sign out and report harvest daily at the nearest check station.
- E) The following regulations apply to the Doza Creek Waterfowl Management Area:
- i) No waterfowl hunters may enter the area before 3:00 along Sandy. Each day of the waterfowl hunting season. No waterfowl hunters may remain in the area after 3:00 p.m.
- ii) Only waterfowl, coot and archery deer (as provided by 17 Ill. Adm. Code 670) hunting allowed in this area during the duck hunting season; goose hunting is closed during the second firearm deer season if the second firearm deer season occurs after duck season.
- 15) Kidd Lake State Natural Area (1)
- 16) Kinkaid Lake Fish & Wildlife Area (1)
- 17) Lake Shelbyville (except for land/waters covered in subsection(b)(18)†19† of this section) (1)
- 18) Lake Shelbyville West Okaw and Kaskaskia Fish and Wildlife Area

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- A) Waterfowl hunting shall be permitted as described below except in duly posted restricted and "No Hunting" areas.
- B) Waterfowl hunting in the Fish Hook, the North Dunn, the McGee, and the Jonathan Creek Waterfowl Areas shall be allotted by a daily drawing from opening day through the first Saturday and Sunday of the regular waterfowl season. Parties must register for drawings between 3:00 along Sandy and 4:00 along Sandy. Central Standard Time at the check station on those days. Each party drawn shall be allowed to choose one of the staked sites in the waterfowl area. Parties must select sites in the order they are drawn. Maximum party size is 4 persons. In addition, the following regulations shall apply:
- All parties must hunt within 10 yards of their assigned stake.
 - All parties must be in place by one-half hour before hunting time.
 - All parties are required to report their harvest by 2:00 p.m. following each hunt.
- C) Hunting in the Jonathan Creek, North Dunn and McGee Waterfowl Areas shall be restricted to designated, staked sites on a first come-first served basis except as noted in subsections (D)(18)(A) and (B) above. A hunting party must hunt within 10 yards of the stake.
- D) Each hunting party in the Fish Hook, Dunn, Jonathan Creek and McGee Waterfowl Areas are required to hunt over a minimum of 12 decoys.
- E) Motors of over 10 horsepower shall not be operated in the Fish Hook, Jonathan Creek, Dunn, and McGee Waterfowl Areas.
- F) Waterfowl hunting only is permitted in the Fish Hook, Dunn, Jonathan Creek and McGee Waterfowl Areas during the regular waterfowl season, except that pheasant, rabbit and quail hunting is permitted after 1:00 p.m. daily beginning the day after the close of the Central Zone Duck Season.
- G) During the regular waterfowl season, no bank or boat fishing shall be permitted on the Kaskaskia River from the Strickland Boat Access north to the Illinois Central Railroad from one-half hour before sunrise until 1:00 p.m.
- H) A free permit is required, which is obtained from the site office. Permits must be in possession while hunting waterfowl. The permit must be returned and harvest reported by February 15 or the hunter will forfeit his hunting privileges at this site for the following year.

19) ~~Waterfowl Hunting in the Fish Hook, Dunn, and McGee Waterfowl Areas~~

- A) Hunters must check out by 2:00 p.m. A daily drawing will be held at the check station 60 minutes prior to legal hunting hours on each day hunting is allowed. A daily fee of \$5.00

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- B) ~~per person will be charged for waterfowl hunting. Only walk-in hunting will be permitted. Blind decoys be portable in nature or constructed of natural materials located at the blind site and must be removed at the end of the day's hunt. A maximum of 3 hunters per blind will be allowed.~~
- C) ~~The site shall be closed to waterfowl hunting on Mondays, Tuesdays, Fridays, Thanksgiving, Christmas, New Year's day, and during site firearms deer hunts.~~
- B) ~~Waterfowl hunters must hunt within 50 feet of the blind location marker. All movement on site must be directed between the check station and blind location. Entry into restricted areas shall result in the loss of hunting privileges at the site for the remainder of that season.~~
- 19) 20) Meredosia Lake - Cass County Portion Only (meandered waters only)
- All boat traffic is prohibited from operating on meandered waters (except non-motorized boats may be used to assist in the retrieval of waterfowl shot from private land) from the period from one week before waterfowl season opens until the season closes.
 - Hunting and/or any other activity is prohibited during the period from one week before waterfowl season opens until the season closes.
- 20) 21) Mernett
- Waterfowl hunting shall be permitted only during the duck hunting season.
 - Hunting is allowed in both the walk-in and blind areas only. Those individuals wishing to hunt in the walk-in area are required to deposit their hunting licenses and register at the check station prior to entering the area. Individuals who wish to use the blind area are required to deposit their hunting licenses and participate in a daily drawing during which blinds shall be assigned. Hunting parties shall not change blinds without prior approval from the check station operator. Those persons exempted by law from having hunting licenses must deposit their Firearm Owner's Identification Cards.
 - The daily drawing shall be held one hour prior to legal opening time.
 - All members of the hunting party shall register as a group (not to exceed 4 persons per group) for the purpose of the drawing.
 - Those hunters in the blind area shall park in designated areas. These parking areas shall be numbered to correspond with particular blind sites located along the levee road. In the blind area, a minimum of 12 decoys per blind is required while hunting waterfowl.

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22) Midewin National Tallgrass Prairie

A) Hunters must check out by 2:00 p.m. A daily drawing will be held at the check station 60 minutes prior to legal hunting hours. On each day hunting is allowed. A daily fee of \$5.00 per person will be charged for waterfowl hunting.

B) Only walk-in hunting will be permitted; blinds must be portable in nature or constructed of natural materials located at the blind site, and must be removed at the end of the day's hunt. A maximum of 3 hunters per blind will be allowed.

C) The site shall be closed to waterfowl hunting on Mondays, Tuesdays, Fridays, Thanksgiving, Christmas, New Year's Day, and during site firearms deer hunts.

D) Waterfowl hunters must hunt within 50 feet of the blind location marker. All movement on-site must be directly between the check station and blind location. Entry into restricted areas shall result in the loss of hunting privileges at the site for the remainder of that season.

22) Oakford Conservation Area (1)

23) Ray Norbut State Fish and Wildlife Area (1)
Statewide season regulations apply except that the season closes November 30 in Area A and December 15 in Area C, or the legal statewide closing, whichever is earlier.

24) Rend Lake Project Lands and Waters

A) All waterfowl hunters and all boats must be out of the Casey Fork and Big Muddy subimpoundments by 2:00 p.m. each day of the waterfowl season and not return until 4:30 along Sandy, except during the last 3 days of the Canada goose season, and during any goose season occurring after the Canada goose season, hunters must be out of the areas by one hour after sunset and not return until 4:30 along Sandy.

B) No hunting permitted from the subimpoundment dams.

C) No waterfowl hunting permitted within 200 yards of the refuge boundary, or within 100 yards of any private property boundary.

D) No waterfowl hunting permitted within 200 yards of any Whistling Wings Access Area daily drawing blind/pit.

E) All boat traffic is prohibited from entering the subimpoundments from 1 week before waterfowl season until opening day of waterfowl season.

F) All waterfowl hunters must sign in prior to hunting and sign out and report their harvest at the end of each day's hunt.

G) Permanent blinds at the Whistling Wings Access Area shall be regulated as follows:

- i) During goose season, a separate drawing will be held for the 4 pits at Whistling Wings. This drawing will be held at the Cottonwood check station following the drawing for staked hunting sites. Hunters may not

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register for more than one drawing per day. Unsuccessful hunters in the drawing for Whistling Wings pits may select any unclaimed staked location after the drawings.

ii) Hunters who wish to hunt together must register as a hunting party and be present at the drawing.

iii) All hunters must have the registration card from the check station in their possession while hunting.

iv) Two standby parties will be drawn for pit refill after move-up of initial hunting parties, in the reverse order of the order the pits were drawn.

v) No more than 6 dozen decoys may be used per pit.

vi) No more than 4 hunters will be allowed in a pit or hunting party.

H) Each hunting party is required to hunt over a minimum of 12 decoys at each blind site, and all decoys must be picked up at the end of each day's hunt.

I) During the last 3 days of Canada goose season and during any goose seasons occurring after Canada goose season, hunting hours shall close at sunset daily.

J) The land portion of the Rend Lake Refuge is closed to trespassing during waterfowl season. The location of the Rend Lake Refuge is described as follows:

i) Bounded on the south by a buoy line, approximating the Jefferson-Franklin County Line.

ii) Bounded on the east by a buoy line and/or signs approximating the channel of the Casey Fork Creek.

iii) Bounded on the west by a buoy line and/or signs approximating the channel of the Big Muddy River.

iv) Bounded on the north portion of the Big Muddy River by a buoy line and/or signs approximating a line which would extend west from Ina, Illinois.

v) Bounded on the north portion of the Casey Fork Creek by the Casey Fork Subimpoundment Dam.

vi) Bounded on Nason Point by refuge boundary signs at project limits.

K) After the close of duck season, goose hunters may not possess more than 5 shotgun shells for each Canada Goose allowed in the daily bag.

L) Staked Hunting Areas - Those areas designated as a staked hunting area will be publicly announced and the following regulations will apply:

i) All hunting must occur within 10 yards of an assigned, numbered stake and only one hunting party may occupy a staked site at any given time.

ii) Stakes will be assigned via a daily drawing held at 4:00 along Sandy, during November, 4:30 along Sandy, in December and 5:00 along Sandy, in January. Check

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stations will be open from 1/2 hour before drawing time to 9:30 along Sandy. daily.

iii) Check station at the Bonnie Dam Access Area will be operated on a daily basis through the second weekend of the waterfowl season. Thereafter, Bonnie Dam check station will only be open on weekends and holidays as posted at the check station. Cottonwood Access Area will be operated on a daily basis throughout the waterfowl season for both Bonnie Dam and Cottonwood Hunting Areas. Hunters who wish to hunt together at a staked location must register as a hunting party and be present for the drawing. Only those persons in that party may hunt at the assigned stake. No more than 5 persons shall be in a hunting party.

iv) Hunters (including those who are not drawn in the initial daily drawing) will not be allowed to enter the staked area until 9:00 along Sandy. No hunting party may enter the staked area after 9:30 along Sandy. Hunters will not be allowed to enter the staked area between 9:00 along Sandy and 9:30 along Sandy, unless there are vacant staked hunting locations.

v) When a staked hunting location is vacated by a hunting party any other registered hunting party may claim the vacant stake on a first come-first served basis.

vi) When hunting parties have killed their legal daily bag limit of ducks (not including coots and mergansers) and/or Canada geese in respect to the legal hunting season dates they must vacate the hunting site.

vii) Hunters must sign in and out and report their harvest on the cards at the access area where they launch.

25) Saline County Conservation Area (1)

A) Waterfowl hunting is allowed north of the township road only.

B) Walk-in hunting only.

C) Hunters must sign in prior to hunting and sign out reporting harvest at the end of each day.

26) Sand Ridge State Forest (Mud Turtle State Natural Area) (1)

A) Hunting is permitted on Tuesdays and Saturdays during the duck season. Permits are issued on a first come-first served basis.

B) Two hunters are allowed per blind. At least one hunter must have a P-2 handicapped certification.

C) Hunters must report harvest to site office.

27) Sanganois Conservation Area

A) Hunters using the walk-in area shall use the check station at the headquarters area located 8 miles northwest of Chandlerville just off Route 78 or the check station on the

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west side of the Illinois River one mile north of Browning near Route 100.

B) Walk-in waterfowl hunting shall be permitted only in the area posted for this purpose.

C) All hunters using a walk-in area must report to the check station to fill out information cards and to turn in hunting licenses or Firearm Owner's Identification Cards before proceeding to area.

D) Upon the completion of hunting, hunters must report to the check station within one hour.

E) Fishing is prohibited in the impoundment areas during the duck season.

F) No person shall trespass on the Barkhausen Refuge during the period from October 1 through end of goose season.

G) No person shall trespass on the Marion-Pickrel Waterfowl Refuge during the period from October 1 through the last day of the waterfowl season, unless prior permission for a specific reason (such as access to private land or to retrieve dead or wounded game) is granted by the site superintendent.

H) When the central zone goose season extends beyond the duck season, goose hunting shall be permitted with statewide hunting hours in effect. Hunters need not occupy a blind. All hunting must be conducted within non-refuge areas.

I) No hunting permitted from the walk-in area subimpoundment levee.

28) Sangchris Lake State Park

A) During the last 3 days of Canada goose season, hunting hours will close at statewide closing.

B) Blind sites shall be allocated by a daily drawing to be conducted 90 minutes prior to hunting time. Blind sites not selected during the drawing (or in the event that personnel are not available to conduct the drawing) shall be allocated on a first come-first served basis. (During that portion of the goose season which follows the duck season, the west arm blind sites and east arm blind sites south of power lines shall be available for goose hunting and shall be allocated on a daily drawing basis to be held at 5:30 along Sandy. daily.)

C) All hunting must be from registered blind sites only and hunters must occupy their blinds within one hour after registering at the check station.

D) Upon vacating their blinds, hunters must place their completed harvest cards in the collection boxes located at either the east or west boatdock.

E) There will be a duly posted waterfowl refuge. These areas shall be closed to all boat traffic (except as allowed in subsection (b)(27)(J)) and boat fishing during the waterfowl

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- season. Bank fishing along the dam shall be permitted.
- F) No more than 4 persons shall occupy a blind at one time.
- G) The center arm of the lake shall be closed to all waterfowl hunting.
- H) Blind sites shall be determined by the Department of Natural Resources and marked with a numbered stake. When it is deemed necessary, the Department of Natural Resources shall remove, move or close blind sites in order to carry out the operations of the overall management program.
- I) Hunters wishing to move to another blind location may do so after 10 along Sandy. Providing they include the blind change on the harvest card and report their kill for each blind.
- J) Access to blind sites shall be by boat only and from designated boat launch sites. Corridors located along the edges of the existing refuge will be established to provide access to all available blind sites as designated by site superintendent when conditions warrant.
- K) All hunting must be from 1 portable blind or 1 anchored portable boat blind located within a numbered cove and between the assigned numbered stakes.
- L) Crippled waterfowl that fall on land, other than areas designated as refuge, shall be retrieved by foot. However, no gun may be carried while attempting to recover such birds.
- M) No pits or blinds shall be built on State leased or Commonwealth Edison land.
- N) Blind sites: A position between two like numbered stakes within a cove where a blind may be located.
- O) Fishing shall be prohibited in the east and west arms of the lake during the period from 10 days prior to the duck season through the end of the duck season. Fishing shall be prohibited in the west arm of the lake and the east arm of the lake south of the power lines during that portion of the goose season that follows the duck season.
- P) Each party must hunt over a minimum of 12 decoys, and all decoys must be removed at the end of each day's hunt.
- Q) When it is deemed necessary for public safety reasons, such as flooding, high winds, or heavy fog, the Department of Natural Resources will close the lake area to all fishing and all boating activity except for non-water hunting programs.
- R) During flood conditions, waterfowl hunters may hunt the tailwaters of Sangchris Lake dam including Clear Creek and the South Fork of the Sangamon River. Decoys must be removed at the end of each day's hunt.
- 29) Shawnee National Forest, Upper and Lower Bluff Lakes
Goose hunting is prohibited.

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- 30) Shawnee National Forest, Lake Scatters
All hunting must be by walking in or in boats without motors.
- 31) Shawnee National Forest, Oakwood Bottoms (Green Tree Reservoir west of the Big Muddy levee)
A) All hunting must be by walking into the area.
B) Each hunting party must hunt over a minimum of 12 decoys in Compartments 19, 20 and 21.
C) No person shall tamper with or attempt to manipulate any of the gates, pumps or structures in the subimpoundment area.
- 32) Stephen A. Forbes State Park
A) On the main lake hunting is allowed from a boat blind only in the designated areas.
B) Only walk-in hunting is allowed in the subimpoundment.
C) Hunting shall be allowed on a first come-first served basis. All hunters must use 12 decoys, minimum.
- 33) Ten Mile Creek Fish and Wildlife Area (1)
A) Waterfowl hunters must obtain permits prior to hunting. Permits must be returned by February 15.
B) Each hunting party is required to hunt over a minimum of 12 decoys at each blind site, and all decoys must be picked up at the end of each day's hunt.
C) Areas designated as Rest Areas are closed to all access during the Canada Goose Season only. Rest Area designation has been given to that part of the Belle River unit that lies south of Auxier Creek and is posted as Rest Area, and the 250 acre tract at the western edge of the Eads Mine unit.
- D) After the close of the duck season, goose hunters in that portion of Ten Mile Creek that lies in the Rend Lake Quota Zone may not possess more than 5 shotgun shells for each Canada Goose allowed in the daily bag.
- 34) Turkey Bluffs State Fish and Wildlife Area (All hunters must sign in and out and report kill) (1)
35) Union County (Firing Line Waterfowl Management Area)
A) It shall be unlawful to take a gun beyond the posted boundary while retrieving crippled geese.
B) During goose season waterfowl hunters may not possess more than 5 shells for each Canada Goose allowed in the daily bag.
C) During goose season hunting from staked sites only.

(Source: Amended at 20 Ill. Reg. _____, effective _____)

Section 590.80 Early and Late Goose (all species) Hunting Regulations on Department Sites

- a) During goose hunting seasons that begin before or extend beyond the

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regular duck season, statewide regulations and site specific regulations for goose hunting, as indicated in Sections 590.40, 590.50 and 590.60, shall apply to all sites (except those closed in subsections (c), (d) and (e) with the following exceptions:

- 1) Check in and check out (or sign in and out) is required only at sites with an asterisk (*).
- 2) No fees will be charged for hunting for seasons before duck season or for seasons after the regular Canada goose season.
- 3) No sites are closed to fishing during seasons before the regular duck season or for seasons after the regular Canada goose season.
- 4) Hunting from a completed blind or staked site is waived during seasons held before the regular duck season or for seasons held after the regular Canada goose season at sites marked with an @.
- 5) Hunting from a staked site (blind need not be completed) is required during seasons held before the regular duck season at sites marked with a #.
- 6) During goose seasons held prior to regular duck season, no hunting is allowed in designated dove management fields or within 100 yards of such fields.

b) The following sites will be opened to all goose hunting seasons:

Blanding Wildlife Area @

Cache River Natural Area *

Carlisle Lake Project Lands and Water *

Chain O'Lakes State Park #

Chauncey Marsh (permit required, available at Red Hills State Park)

Des Plaines Conservation Area #

Dog Island Wildlife Management Area *

Fort de Chartres Historic Site

Kaskaskia River State Fish and Wildlife Area (between the Highway 13 and Highway 154 bridges) *

Kidd Lake State Natural Area

Kinkaid Lake Fish and Wildlife Area

Lake Shelbyville (except lands and waters covered in Section 590.60(b)(18) †††)

Marshall Fish and Wildlife Area *

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Mississippi River Fish and Waterfowl Management Area (Pools 25 and 26) @

Mississippi River Pools 16, 17 and 18 @

Oakford Conservation Area

Rend Lake Project Lands and Waters @

Saline County Conservation Area *

Sanganois State Fish and Wildlife Area * @

Shawnee Forest, LaRue Scatters

Shawnee Forest, Oakwood Bottoms

Sparland Fish and Wildlife Area #

Ten Mile Creek Fish and Wildlife Area (permit required; rest areas open to hunting during goose season before and after the regular goose season)

Turkey Bluffs State Fish and Wildlife Area *

Woodford Fish and Wildlife Area *

c) The following sites will be open to any goose hunting seasons that occur before the regular duck season through the end of the regular Canada Goose Season:

Anderson Lake (closed after regular duck season) * @

Horseshoe Lake Fish and Wildlife Area (Controlled Hunting Area and Public Hunting Areas)

Horseshoe Lake State Park (Madison County) #

Lake Shelbyville West Okaw and Kaskaskia Fish and Wildlife Area (must have site specific permit)

Ray Norbut State Fish and Wildlife Area *

Rice Lake (closed after regular duck season) * @

Union County Fish and Wildlife Area (Firing Line Management Area and Controlled Hunting Area)

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- d) The following sites will be opened to all goose hunting during any Canada goose hunting seasons that occur after the regular duck season:

Braidwood State Fish and Wildlife Area *

Clinton Lake

Heidecke State Fish and Wildlife Area *

Kankakee River State Park

Lake DePue Fish and Wildlife Area *

Lake Mississippi Fish and Wildlife Area

Pekin Lake Fish and Wildlife Area

Sangchris Lake State Park *

Spring Lake Fish and Wildlife Area *

Starved Rock State Park *

- e) The following sites will be opened to any goose hunting seasons that occur after the regular Canada goose hunting season:

Banner Marsh * @

Mississippi River Pools 21, 22 and 23 @

Stephen A. Forbes State Park *

Snake Den Hollow * @

William W. Powers Conservation Area

- f) The following sites will be closed to all goose hunting seasons that occur outside the regular duck season dates:

Campbell Pond Wildlife Management Area

Donnelley Fish and Wildlife Area

Mazonia State Fish and Wildlife Area *

Meredosia Lake (Cass County portion only, meandering waters only)

Mermet Lake Fish and Wildlife Area

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Powerton Reservoir

Redwing Slough/Deer Lake

Shawnee Forest, Upper and Lower Bluff Lakes

(Source: Amended at 20 Ill. Reg. _____, effective _____)

OFFICE OF BANKS AND REAL ESTATE

NOTICE OF PROPOSED REPEALER

- 1) Heading of the Part: Americans With Disabilities Act Grievance Procedure
- 2) Code Citation: 4 Ill. Adm. Code 1100
- 3) Section Numbers:
- | | |
|---------|-------------------------|
| 1100.10 | <u>Proposed Action:</u> |
| Repeal | |
| 1100.20 | Repeal |
| 1100.30 | Repeal |
| 1100.40 | Repeal |
| 1100.50 | Repeal |
| 1100.60 | Repeal |
| 1100.70 | Repeal |

4) Statutory Authority: Implementing Title II, Subtitle A of the Americans With Disabilities Act of 1990 (42 U.S.C. 12131-12134), as specified in Title II regulations (28 CFR 35.107), and authorized by the Savings Banks Act [205 ILCS 205].

5) A Complete Description of the Subjects and Issues Involved: The Commissioner of Banks and Trust Companies and the Office of the Commissioner of Savings and Residential Finance were merged to form the Office of Banks and Real Estate by Executive Order #1 (1996), effective June 1, 1996. That merger was further implemented and codified by Public Act 89-508. The rules of the two predecessor agencies were made the rules of the new agency.

The two predecessor agencies had identical rules relating to the Americans With Disabilities Act. One of those sets of rules (4 Ill. Adm. Code 375) is being maintained in force for the new Office of Banks and Real Estate. The other duplicative set of rules (4 Ill. Adm. Code 1100) is no longer needed and is being repealed by this rulemaking.

- 6) Will this rulemaking replace any emergency rulemaking currently in effect?
No
- 7) Does this rulemaking contain an automatic repeal date? No
- 8) Does this rulemaking contain incorporations by reference? No
- 9) Are there any other proposed rulemakings pending on this Part? No
- 10) Statement of Statewide Policy Objectives: This rulemaking will not affect local government.
- 11) Time, Place and Manner in which interested persons may comment on this proposed rulemaking: Interested parties should submit written comments or views concerning the proposed rulemaking to the attention of:

OFFICE OF BANKS AND REAL ESTATE

NOTICE OF PROPOSED REPEALER

John Arthur
Legislative Liaison
Office of Banks and Real Estate
500 East Monroe, Suite 900
Springfield, IL 62701-1532
217/782-3000

The Agency will consider all written comments it receives in writing within 45 days after the date of publication of this *Illinois Register*.

12) Initial Regulatory Flexibility Analysis:

- A) Types of small businesses, small municipalities and not for profit corporations affected: None
- B) Reporting, bookkeeping or other procedures required for compliance: None
- C) Types of professional skills necessary for compliance: None

13) Regulatory Agenda on which this rulemaking was summarized: This rule was not included on either of the 2 most recent agendas because: Rule revisions to reflect the merger of the two agencies have been summarized generally on both the January 1996 and July 1996 agendas. The need for this specific repealer was not indicated because it had not been determined when the agendas were filed that the Americans With Disabilities Act rules of the two predecessor agencies were duplicative.

The full text of the Proposed Repealer begins on the next page.

OFFICE OF BANKS AND REAL ESTATE

NOTICE OF PROPOSED REPEALER

TITLE 4: DISCRIMINATION PROCEDURES
CHAPTER XII: OFFICE OF BANKS AND REAL ESTATE

PART 1100

AMERICANS WITH DISABILITIES ACT GRIEVANCE PROCEDURE (REPEALED)

Section	
1100.10	Purposes
1100.20	Definitions
1100.30	Procedure
1100.40	Designated Coordinator Level
1100.50	Final Level
1100.60	Accessibility
1100.70	Case-by-Case Resolution

AUTHORITY: Implementing Title II, Subtitle A of the Americans With Disabilities Act of 1990 (42 U.S.C. 12131-12134), as specified in Title II regulations (28 CFR 35.107), and authorized by the Savings Bank Act [205 ILCS 205].

SOURCE: Adopted at 17 Ill. Reg. 14653, effective August 27, 1993; Recodified from Chapter XXXI, Commissioner of Savings and Residential Finance, to Chapter XII, Office of Banks and Real Estate, pursuant to P.A. 89-508, at 20 Ill. Reg. 12644; repealed at 20 Ill. Reg. _____, effective _____.

Section 1100.10 Purposes

- a) This Americans With Disabilities Act Grievance Procedure (Procedure) is established pursuant to the Americans With Disabilities Act of 1990 (42 USC Section 12101 et seq.) (ADA), and specifically Section 35.107 of the Title II regulations (28 CFR Part 35) requiring that a grievance procedure be established to resolve grievances asserted by qualified individuals with disabilities. Should any individual desire to review the ADA or its regulations to understand the rights, privileges and remedies afforded by it, please contact the Designated Coordinator.
- b) In general, the ADA requires that each program, service and activity offered by the Office of Banks and Real Estate (Agency), when viewed in its entirety, be readily accessible to and usable by qualified individuals with disabilities.
- c) It is the intention of the Agency to foster open communication with all individuals requesting readily accessible programs, services and activities. The Agency encourages supervisors of programs, services and activities to respond to requests for modifications before they become grievances.

Section 1100.20 Definitions

OFFICE OF BANKS AND REAL ESTATE

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"Complainant" is an individual with a disability who files a Grievance Form provided by the Agency in accordance with this Part.

"Designated Coordinator" is the person(s) appointed by the Commissioner who is/are responsible for the coordination of efforts of the Agency to comply with and carry out its responsibilities under Title II of the ADA, including investigation of grievances filed by complainants. The Designated Coordinator may be contacted at 500 E. Monroe, Suite 900, Springfield, Illinois 62701. See 28 CFR 35.107.

"Grievance" is any complaint under the ADA by an individual with a disability who meets the essential eligibility requirements for participation in or receipt of the benefits of a program, activity or service offered by the Agency, and who believes he or she has been excluded from participation in or denied the benefits of any program, service or activity of the Agency or has been subject to discrimination by the Agency.

Section 1100.30 Procedure

- a) Grievances must be submitted in accordance with the procedure established in Sections 1100.40 and 1100.50 of this Part, in the form and manner described, and within the specified time limits. It is mutually desirable and beneficial that grievances be satisfactorily resolved in a prompt manner. Time limits established in this procedure are in calendar days, unless otherwise stated, and may be extended by mutual agreement in writing by the complainant and the reviewer at the Designated Coordinator and Final Levels.
- b) A complainant's failure to submit a grievance, or to submit or appeal it to the next level of procedure within the specified time limits shall mean that the complainant has withdrawn the grievance or has accepted the last response given in the procedure as the Agency's last response.
- c) The Agency shall, upon being informed of an individual's desire to file a formal grievance, instruct the individual how to receive a copy of this procedure and the Grievance Form.

Section 1100.40 Designated Coordinator Level

- a) If an individual desires to file a formal written grievance, the individual shall promptly, but no later than 180 days after the alleged discrimination, submit the grievance to the Designated Coordinator in writing on the Grievance Form prescribed for that purpose. The Grievance Form must be completed in full in order to receive proper consideration by the Designated Coordinator.
- b) Upon request, assistance shall be provided by the Agency to complete the Grievance Form.
- c) The Designated Coordinator, or his/her representative, shall

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investigate the grievance and shall make reasonable efforts to resolve it. The Designated Coordinator shall provide a written response to the complainant and Commissioner within 10 business days after receipt of the Grievance Form.

Section 1100.50 Final Level

- a) If the grievance has not been resolved at the Designated Coordinator Level to the satisfaction of the complainant, the complainant may submit a copy of the Grievance Form and Designated Coordinator's response to the Commissioner of the Agency for final review. The complainant shall submit these documents to the Commissioner, together with a short written statement explaining the reason(s) for dissatisfaction with the Designated Coordinator's written response, within 5 business days after receipt by the complainant of the Designated Coordinator's response.
- b) The Commissioner shall appoint a 3 member panel to review the grievance at the Final Level. One member so appointed shall be designated chairman.
- c) The complainant shall be afforded an opportunity to appear before the panel. Complainant shall have a right to appoint a representative to appear on his/her behalf. The panel shall review the Designated Coordinator's written response and may conduct interviews and seek advice as it deems appropriate.
- d) Upon reaching a concurrence, the panel shall make recommendations in writing to the Commissioner as to the proper resolution of the grievance. All recommendations shall include reasons for such recommendations and shall bear the signature of the concurring panel members. A dissenting member of the panel may make a recommendation to the Commissioner in writing and shall also sign such recommendation.
- e) Upon receipt of recommendations from a panel, the Commissioner shall approve, disapprove or modify the panel recommendations, shall render a decision thereon in writing within 30 days, shall state the basis therefor, and shall cause a copy of the decision to be served on the parties. The Commissioner's decision shall be final. If the Commissioner disapproves or modifies the panel recommendations, the Commissioner shall include written reasons for such disapproval or modification.
- f) The Grievance Form, the Designated Coordinator's response, the statement of reasons for dissatisfaction, the recommendations of the panel and the decision of the Commissioner shall be maintained in accordance with the State Records Act (Ill. Rev. Stat. 1991, ch. 116, par. 43.4 et seq.) [5 ILCS 160], or as otherwise required by law.

Section 1100.60 Accessibility

The Agency shall ensure that all stages of the grievance procedure are readily

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accessible to and usable by individuals with disabilities.

Section 1100.70 Case-by-Case Resolution

Each grievance involves a unique set of factors that includes but is not limited to: the specific nature of the disability; the essential eligibility requirements, the benefits to be derived, and the nature of the service, program or activity at issue; the health and safety of others; and, whether an accommodation would constitute a fundamental alteration to the program, service or activity or undue hardship on the Agency. Accordingly, termination of a grievance at any level, whether through the granting of relief or otherwise, shall not constitute a precedent on which any other complainants should rely

OFFICE OF BANKS AND REAL ESTATE

NOTICE OF PROPOSED REPEALER

1) Heading of the Part: Acquisition of Former Main Banking Premises of Branches or Eligible Depository Institutions

2) Code Citation: 38 Ill. Adm. Code 307

3) Section Numbers: Proposed Action:

307.10 Repeal

307.20 Repeal

4) Statutory Authority: Implementing Section 31(e)(5) and authorized by Section 48(6) the Illinois Banking Act [205 ILCS 5/31(e)(5) and 48(6)].

5) A Complete Description of the Subjects and Issues Involved: This part is being repealed because the statutory language which the rule implemented, Section 31(e)(5) of the Illinois Banking Act [205 ILCS 5/31(e)(5)], was itself repealed by Public Act 88-4.

6) Will this rulemaking replace any emergency rulemaking currently in effect?
No

7) Does this rulemaking contain an automatic repeal date? No

8) Does this rulemaking contain incorporations by reference? No

9) Are there any other proposed rulemakings pending on this Part? No

10) Statement of Statewide Policy Objectives: This rulemaking will not affect local government.

11) Time, Place and Manner in which interested persons may comment on this proposed rulemaking: Interested parties should submit written comments or views concerning the proposed rulemaking to the attention of:

John Arthur
Legislative Liaison
Office of Banks and Real Estate
500 West Monroe, Suite 900
Springfield, Illinois 62701-1532
Telephone: (217) 782-3000

The Agency will consider all written comments it receives in writing within 45 days after the date of publication of this *Illinois Register*.

12) Initial Regulatory Flexibility Analysis:

A) Types of small businesses, small municipalities and not for profit corporations affected: None.

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NOTICE OF PROPOSED REPEALER

B) Reporting, bookkeeping or other procedures required for compliance:
None.

C) Types of professional skills necessary for compliance: None.

13) Regulatory Agenda on which this rulemaking was summarized: This rule was not included on either of the 2 most recent agendas because: The intent to make broad rule revisions in conjunction with the agency merger which formed the Office of Banks and Real Estate was generally summarized in the July 1996 regulatory agenda. This proposed repealer was not specifically addressed because the need for it had not been identified at that time.

The full text of the Proposed Repealer begins on the next page:

OFFICE OF BANKS AND REAL ESTATE

NOTICE OF PROPOSED REPEALER

TITLE 38: FINANCIAL INSTITUTIONS

CHAPTER II: OFFICE OF BANKS AND REAL ESTATE

PART 307

ACQUISITION OF FORMER MAIN BANKING PREMISES OR

BRANCHES OF ELIGIBLE DEPOSITORY INSTITUTIONS (REPEALED)

Section	Purpose
307.10	
307.20	General Rule

AUTHORITY: Implementing Section 31(e)(5) and authorized by Section 48(6) of the Illinois Banking Act (205 ILCS 5/31(e)(5) and 48(6)).

SOURCE: Adopted at 16 Ill. Reg. 12416, effective July 24, 1992; recodified from Chapter II, Commissioner of Banks and Trust Companies, to Chapter II, Office of Banks and Real Estate, pursuant to PA 89-508, at 20 Ill. Reg. 12645; repealed at 20 Ill. Reg. _____, effective _____.

Section 307.10 Purpose

Section 31 of the Illinois Banking Act ("Act") was amended in November, 1989, to permit Illinois state banks to purchase troubled and failed banks and savings associations from the Resolution Trust Corporation ("RTC") and the Federal Deposit Insurance Corporation ("FDIC"). Subsections (a)-(d) of Section 31 of the Act authorize a state bank to acquire the assets of or merge with an eligible depository institution. Subsection (e) of Section 31 of the Act exempts a state bank from the Act's numeric and geographic branching limitations when acquiring the former main banking premises, main office, branch or branches of an eligible depository institution.

Section 31(e)(5) of the Act also exempts a state bank from the Act's numeric and geographic branching limitations if it acquires the former main banking premises, main office, branch or branches of an eligible depository institution through a consortium bid from a lead purchaser within thirty days after that lead purchaser acquired the former main banking premises, main office, branch or branches from the eligible depository institution or its receiver. However, it is the practice of the RTC and FDIC to transfer titles or leases to the lead purchaser only after the other assets and liabilities of an eligible depository institution have been transferred to the lead purchaser, giving rise to the question of whether consortium members may begin doing business prior to the transfer of the title or lease. This Part clarifies that a state bank in the consortium may operate these locations before the transfer of the titles or leases to the lead purchaser and defines when a main banking premises, main office, branch or branches is deemed to be "acquired" by the lead purchaser.

Section 307.20 General Rule

- A state bank may begin operating the former main banking premises,

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main office, branch or branches of an eligible depository institution when the bank has received transfer of the majority of assets and liabilities of the eligible depository institution related to the main banking premises, main office, branch or branches that the bank is purchasing. (Section 31(e)(5) of the Act)

- For purposes of calculating the 30 day time period in Section 31(e)(5) fo the Act, a main banking premises, main office, branch or branches of an eligible depository institution is deemed to be acquired at the time the title or lease for such location is directly transferred by the eligible depository institution or its receiver to a state bank, insured savings association or national bank.

OFFICE OF BANKS AND REAL ESTATE

NOTICE OF PROPOSED REPEALER

- 1) Heading of the Part: Posting Notice of a Proposed Acquisition
- 2) Code Citation: 38 Ill. Adm. Code 370
- 3) Section Numbers:

	<u>Proposed Action:</u>
370.10	Repeal
370.20	Repeal
370.30	Repeal
- 4) Statutory Authority: Implementing Section 3.071(d) and authorized by Section 3.074(a) of the Illinois Bank Holding Company Act of 1957 [205 ILCS 10/3.071(d) and 3.074(a)].

5) A Complete Description of the Subjects and Issues Involved: This Part is being repealed because the statutory language which the rule implemented, Section 3.071(d) of the Illinois Bank Holding Company Act of 1957 [205 ILCS 10/3.071(d)], was itself repealed by Public Act 89-208.

- 6) Will this rulemaking replace any emergency rulemaking currently in effect?
No

- 7) Does this rulemaking contain an automatic repeal date? No

- 8) Does this rulemaking contain incorporations by reference? No

- 9) Are there any other proposed rulemakings pending on this Part? No

- 10) Statement of Statewide Policy Objectives: This rulemaking will not affect local government.

- 11) Time, Place and Manner in which interested persons may comment on this proposed rulemaking: Interested parties should submit written comments or views concerning the proposed rulemaking to the attention of:

John Arthur
Legislative Liaison
Office of Banks and Real Estate
500 East Monroe, Suite 900
Springfield, IL 62701-1532
217/782-3000

The Agency will consider all written comments it receives in writing within 45 days after the date of publication of this *Illinois Register*.

- 12) Initial Regulatory Flexibility Analysis:

- A) Types of small businesses, small municipalities and not for profit corporations affected: None

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NOTICE OF PROPOSED REPEALER

- B) Reporting, bookkeeping or other procedures required for compliance:
None
- C) Types of professional skills necessary for compliance: None
- 13) Regulatory Agenda on which this rulemaking was summarized: July 1996

The full text of the Proposed Repealer begins on the next page:

OFFICE OF BANKS AND REAL ESTATE

NOTICE OF PROPOSED REPEALER

TITLE 38: FINANCIAL INSTITUTIONS

CHAPTER II: OFFICE OF BANKS AND REAL ESTATE

PART 370

POSTING NOTICE OF A PROPOSED ACQUISITION (REPEALED)

Section

370.10 Scope

370.20 Definitions

370.30 Required Notice Period

AUTHORITY: Implementing Section 3.071(d) and authorized by Section 3.074(a) of the Illinois Bank Holding Company Act of 1957 [205 ILCS 10/3.071(d) and 3.074(a)].

SOURCE: Adopted at 11 Ill. Reg. 3035, effective February 2, 1987; recodified from Chapter II, Commissioner of Banks and Trust Companies, to Chapter II, Office of Banks and Real Estate, pursuant to PA 89-508, at 20 Ill. Reg. 12645; repealed at 20 Ill. Reg. _____, effective _____.

Section 370.10 Scope

Section 3.071(d) of the Illinois Bank Holding Company Act of 1957 [205 ILCS 10/3.071(d)] requires notice of a proposed acquisition of an Illinois bank or Illinois bank holding company by a Midwest bank holding company to be posted in all Illinois banking offices of the Illinois bank or Illinois bank holding company to be acquired.

Section 370.20 Definitions

For purposes of this Part:

"application" means the form prescribed by the Commissioner and filed by a Midwest bank holding company pursuant to Section 3.071 of the Illinois Bank Holding Company Act of 1957 [205 ILCS 10/3.071].

Section 370.30 Required Notice Period

Notice of a proposed acquisition of an Illinois bank or Illinois bank holding company shall be posted in all Illinois banking offices of such bank or bank holding company by the Midwest bank holding company seeking to make the proposed acquisition. Such notice shall be posted in an area of the banking office which is accessible to bank customers for a period of 45 days from the date the Midwest bank holding company receives notification from the Commissioner of Banks and Real Estate that its application has been accepted.

DEPARTMENT OF PUBLIC AID

NOTICE OF PROPOSED AMENDMENT

1) Heading of the Part: Assistance Standards

2) Code Citation: 89 Ill. Adm. Code 111

3) Section Numbers: Proposed Action:

111.101

Amendment

4) Statutory Authority: Sections 12-4.11 and 12-13 of the Illinois Public Aid Code [305 ILCS 5/12-4.11 and 12-13]

5) Complete Description of the Subjects and Issues Involved: This rulemaking increases the Department's Assistance Standards in accordance with the methodology established in Section 111.20. The Public Aid Code requires that the Assistance Standards be updated every January based on the increase in the Consumer Price Index (CPI) for the previous fiscal year. The CPI increase for the period June 1995 through June 1996 was 2.7%. The amount of the increase to be effective January 1, 1997, based on this methodology, is 2.7%.

6) Will these proposed amendments replace emergency amendments currently in effect? No

7) Does this rulemaking contain an automatic repeal date? No

8) Do these proposed amendments contain incorporations by reference? No

9) Are there any other proposed amendments pending on this Part? No

10) Statement of Statewide Policy Objectives: These proposed amendments do not affect units of local government.

11) Time, Place, and Manner in which Interested Persons may comment on this proposed rulemaking: Any interested parties may submit comments, data, views, or arguments concerning this proposed rulemaking. All comments must be in writing and should be addressed to:

Judy Umunna

Bureau of Rules and Regulations

Illinois Department of Public Aid

100 South Grand Ave. E., 3rd Floor

Springfield, Illinois 62762

Phone: (217) 524-0081

The Department requests the submission of written comments within 30 days after the publication of this notice. The Department will consider all written comments it receives during the first notice period as required by Section 5-40 of the Illinois Administrative Procedure Act [5 ILCS

DEPARTMENT OF PUBLIC AID

NOTICE OF PROPOSED AMENDMENT

100/5-40].

The Department is unaware of any effect this rulemaking may have on small businesses, small municipalities or not-for-profit corporations. The Department will accept and consider any written comments concerning such effects that may be submitted in response to these proposed amendments. These entities may submit comments in writing to the Department at the above address in accordance with the regulatory flexibility provisions in Section 5-30 of the Illinois Administrative Procedure Act [5 ILCS 100/5-30]. These entities shall indicate their status as small businesses, small municipalities, or not-for-profit corporations as part of any written comments they submit to the Department.

12) Initial Regulatory Flexibility Analysis:

A) Types of small businesses, small municipalities and not for profit corporations affected: None

B) Reporting, bookkeeping or other procedures required for compliance: None

C) Types of professional skills necessary for compliance: None

13) Regulatory agenda on which this rulemaking was summarized: July 1996

The full text of the Proposed Amendments begins on the next page:

DEPARTMENT OF PUBLIC AID

NOTICE OF PROPOSED AMENDMENT

TITLE 89: SOCIAL SERVICES
CHAPTER I: DEPARTMENT OF PUBLIC AID
SUBCHAPTER b: ASSISTANCE PROGRAMS

PART III
ASSISTANCE STANDARDS

Section

111.1	Incorporation By Reference
111.10	Establishment of Assistance Standards
111.20	Computation of the Assistance Standards
111.30	Amount of Assistance Standards (Family of 1)
111.40	Amount of Assistance Standards (Family of 2)
111.50	Amount of Assistance Standards (Family of 3)
111.60	Amount of Assistance Standards (Family of 4)
111.70	Amount of Assistance Standards (Family of 5)
111.80	Amount of Assistance Standards (Family of 6)
111.90	Amount of Assistance Standards (Family of 7 thru 18)
111.100	Amount of Assistance Standards (Child-Only Cases) (Repealed)
111.101	Current Assistance Standards
111.110	Adjustments Following Court Orders

AUTHORITY: Implementing Articles III, IV and VI and authorized by Sections 12-4.11 and 12-13 of the Illinois Public Aid Code [305 ILCS 5/Arts. III, IV and VI, and 12-4.11 and 12-13].

SOURCE: Filed and effective December 30, 1977; rules repealed, new rules adopted and codified at 7 Ill. Reg. 907, effective January 10, 1983; amended at 8 Ill. Reg. 223, effective December 27, 1983; amended at 9 Ill. Reg. 295, effective January 1, 1985; amended at 10 Ill. Reg. 1920, effective January 17, 1986; amended at 11 Ill. Reg. 2297, effective January 16, 1987; amended at 12 Ill. Reg. 871, effective January 1, 1988; amended at 13 Ill. Reg. 85, effective January 1, 1989; amended at 13 Ill. Reg. 3840, effective March 10, 1989; amended at 15 Ill. Reg. 1029, effective January 23, 1991; amended at 16 Ill. Reg. 11577, effective July 15, 1992; amended at 17 Ill. Reg. 3213, effective March 1, 1993; amended at 18 Ill. Reg. 2029, effective January 21, 1994; amended at 18 Ill. Reg. 7009, effective April 27, 1994; amended at 19 Ill. Reg. 2886, effective February 24, 1995; amended at 20 Ill. Reg. 1191, effective January 5, 1996; amended at 20 Ill. Reg. _____, effective _____.

Section 111.101 Current Assistance Standards

Adults and Children

Family Size	Group I	Group II	Group III
1 (AFDC and Refugee/	\$ 555 54±	\$ 535 52±	\$ 453 44±

DEPARTMENT OF PUBLIC AID

NOTICE OF PROPOSED AMENDMENT

Repatriate Assistance)
1 (All Other Programs)

2	432 421	420 499	404 393
3	729 710	705 687	673 656
4	989 969	957 932	916 892
5	1086 1050	1056 1029	1020 994
6	1273 1240	1236 1204	1189 1150
7	1429 1392	1388 1352	1340 1305
8	1504 1465	1461 1423	1413 1376
9	1585 1544	1543 1503	1486 1447
10	1666 1623	1625 1583	1568 1527
11	1756 1710	1707 1663	1649 1606
12	1850 1802	1797 1750	1738 1693
13	1946 1895	1894 1845	1827 1779
14	2049 1996	1994 1942	1924 1874
15	2157 2101	2099 2044	2024 1971
16	2272 2213	2210 2152	2133 2077
17	2393 2331	2328 2267	2246 2187
18	2519 2453	2451 2387	2364 2302
	2652 2583	2580 2513	2490 2425

Child-Only

1	268 261	254 240	247 240
2	527 513	508 495	493 480
3	653 636	634 610	621 605
4	837 815	815 794	792 772
5	994 960	968 943	941 917
6	1067 1039	1042 1015	1014 986
7	1149 1119	1120 1091	1086 1050
8	1231 1199	1203 1172	1167 1137
9	1320 1286	1287 1254	1250 1210
10	1413 1376	1377 1341	1338 1303
11	1510 1471	1472 1434	1429 1392
12	1612 1570	1572 1531	1525 1485

For family sizes greater than 18 or 12, the amount of the Assistance Standard will be determined by adding \$103 or \$80 respectively for each person above 18 or 12. All rounding in determining Assistance Standards is done by rounding down to the next whole dollar amount.

(Source: Amended at 20 Ill. Reg. _____, effective _____)

DEPARTMENT OF REVENUE

NOTICE OF PROPOSED AMENDMENT

1) Heading of the Part: Hotel Operator's Occupation Tax Act2) Code Citation: 86 Ill. Adm. Code 4803) Section Numbers: Proposed Action:
480.105 Amendment4) Statutory Authority: 35 ILCS 145 and 20 ILCS 2505/39b19

5) A Complete Description of the Subjects and Issues Involved: In response to Public Act 87-951, these rules amend the definition of "permanent resident" to state that a "permanent resident" includes any person who occupied or has the right to occupy any room or rooms, regardless of whether it is the same room or rooms, in a hotel for at least 30 consecutive days.

6) Will this rulemaking replace any emergency rulemaking currently in effect?
No

7) Does this rulemaking contain an automatic repeal date? No8) Does this rulemaking contain incorporations by reference? No9) Are there any other proposed rulemakings pending on this Part? No10) Statement of Statewide Policy Objectives: This rulemaking does not create a State Mandate, nor does it modify any existing State Mandate.

11) Time, Place and Manner in which interested persons may comment on this proposed rulemaking: Persons who wish to submit comments on this proposed rule may submit them in writing by no later than 45 days after publication of this notice to:

Jerilynn T. Gordon
Senior Counsel Sales and Excise Tax
Legal Services Office
Illinois Department of Revenue
101 West Jefferson
Springfield, Illinois 62708
Phone: (217) 782-6996

12) Initial Regulatory Flexibility Analysis:

A) Types of small businesses, small municipalities and not for profit corporations affected: Primarily hotels and motels, rooming houses and inns.

B) Reporting, bookkeeping or other procedures required for compliance:

DEPARTMENT OF REVENUE

NOTICE OF PROPOSED AMENDMENT

Bookkeeping skills are required for compliance with this rule.

- C) Types of professional skills necessary for compliance:
Clerical/bookkeeping.

13) Regulatory Agenda on which this rulemaking was summarized: July 1996

The full text of the Proposed Amendment begins on the next page:

DEPARTMENT OF REVENUE

NOTICE OF PROPOSED AMENDMENT

TITLE 86: REVENUE

CHAPTER I: DEPARTMENT OF REVENUE

PART 480

HOTEL OPERATORS' OCCUPATION TAX ACT

Section	
480.101	Nature, Rate and Scope of the Tax
480.105	Definitions
480.110	Registration and Returns
480.115	Books and Records
480.120	Penalties, Interest and Procedures
480.125	Claims to Recover Erroneously Paid Tax

AUTHORITY: Implementing the Hotel Operators' Occupation Tax Act [35 ILCS 145] and authorized by Section 39b19 of the Civil Administrative Code of Illinois [20 ILCS 2505/39b19].

SOURCE: Adopted July 6, 1962; codified at 8 Ill. Reg. 8611; amended at 13 Ill. Reg. 10693, effective June 16, 1989; amended at 16 Ill. Reg. 3578, effective February 25, 1992; amended at 20 Ill. Reg. _____, effective _____.

Section 480.105 Definitions

"Hotel" means any building or buildings in which the public may, for a consideration, obtain living quarters, sleeping or housekeeping accommodations. The term includes inns, motels, tourist homes or courts, lodging houses, rooming houses and apartment houses.

"Occupancy" means the use or possession, or the right to the use or possession, of any room or rooms in a hotel for any purpose, or the right to the use or possession of the furnishings or to the services and accommodations accompanying the use and possession of the room or rooms.

"Operator" means any person operating a hotel.

"Permanent resident" means any person who occupied or has the right to occupy any room or rooms, regardless of whether it is the same room or rooms, in a hotel for at least 30 consecutive days.

"Rent" or "rental" means the consideration received for occupancy, valued in money, whether received in money or otherwise, including all receipts, cash, credits and property or services of any kind or nature.

(Source: Amended at 20 Ill. Reg. _____, effective _____.

DEPARTMENT OF REVENUE
NOTICE OF PROPOSED AMENDMENT

DEPARTMENT OF AGRICULTURE
NOTICE OF ADOPTED AMENDMENTS

1) Heading of the Part: Diseased Animals

2) Code Citation: 8 Ill. Adm. Code 85

3) Section Numbers: Adopted Action:
85.5 Amendment
85.10 Amendment
85.15 Amendment
85.40 Amendment
85.50 Amendment
85.75 Amendment
85.100 Amendment
85.105 Amendment
85.115 Amendment
85.125 Amendment

4) Statutory Authority: Illinois Diseased Animals Act [510 ILCS 50], Section 6 of the Illinois Bovine Brucellosis Eradication Act [510 ILCS 30/6], Livestock Auction Market Law [225 ILCS 640], and Equine Infectious Anemia Control Act [510 ILCS 65]

5) Effective Date of Rulemaking: September 25, 1996

6) Does this rulemaking contain an automatic repeal date? No

7) Does this rulemaking contain incorporations by reference? Yes

8) Date Filed in Agency's Principal Office: September 25, 1996

9) Notice of Proposal Published in Illinois Register: July 12, 1996, 20 Ill. Reg. 8759

10) Has JCAR issued a Statement of Objections to these rules? No

11) Difference(s) between proposal and final version: In Section 85.10, "avian" was added to the reportable disease "infectious encephalomyelitis". Other nonsubstantive editorial corrections were made.

12) Have all the changes agreed upon by the agency and JCAR been made as indicated in the agreement letter issued by JCAR? Yes

13) Will this rulemaking replace an emergency rule currently in effect? Yes, Section 85.10 published in May 10, 1996 Illinois Register (20 Ill. Reg. 6581, effective 4/30/96).

14) Are there any amendments pending on this Part? No

15) Summary and Purpose of Rulemaking: In Sections 85.5, 85.15, 85.50, 85.75,

DEPARTMENT OF AGRICULTURE

NOTICE OF ADOPTED AMENDMENTS

and 85.115, the current edition of the Code of Federal Regulations is adopted.

In Section 85.10, emergency rulemaking was initiated and effective on 4/30/96 (20 Ill. Reg. 6581) making infectious encephalomyelitis, infectious laryngotracheitis and paramyxovirus infection (other than Newcastle) reportable diseases. The emergency rule is hereby adopted, and it is clarified in this rulemaking that only "avian" infectious encephalomyelitis is being added to this Section.

Section 85.40 is amended to include livestock consigned to slaughter from auction markets, marketing centers, livestock dealers or any other gathering point at regular intervals for immediate slaughter.

In Section 85.105, the exception for public stockyards is deleted, and language included to cover other forms that may be required by the Department for entry into Illinois is added. Language is added in subsection (b) to prohibit the diverting en route of slaughter animals consigned to points out of state. In Section 85.100, language is added to prohibit the diverting en route of out-of-state livestock consigned to stockyards, slaughtering centers or marketing centers.

In Section 85.125, two additional types of official identification for ratites are added.

- 16) Information and questions regarding these adopted amendments shall be directed to:

Name: Debbie Wakefield
Address: Illinois Department of Agriculture
State Fairgrounds
Springfield, Illinois 62794-9281
Telephone: 217/785-5713
Facsimile: 217/785-4505

The full text of the Adopted Amendment begins on the next page:

DEPARTMENT OF AGRICULTURE

NOTICE OF ADOPTED AMENDMENTS

TITLE 8: AGRICULTURE AND ANIMALS
CHAPTER I: DEPARTMENT OF AGRICULTURE
SUBCHAPTER b: ANIMALS AND ANIMAL PRODUCTS
(EXCEPT MEAT AND POULTRY INSPECTION ACT REGULATIONS)

PART 85
DISEASED ANIMALS

Section	Definitions
85.5	Incorporation by Reference
85.7	Reportable Diseases
85.10	Truck Cleaning and Disinfection
85.15	Disposal of Sick, Diseased, or Crippled Animals at Stockyards
85.20	Sale of Livestock Quarantined Because of Disease
85.25	Identification Ear Tags for Livestock
85.30	Identification Tags Not to be Removed
85.35	Livestock for Immediate Slaughter Not to be Diverted En Route
85.40	Anthrax
85.45	Goats
85.50	Scrapie in Sheep
85.55	Bluetongue
85.60	Sheep Foot Rot (Repealed)
85.65	Cattle Scabies
85.70	Cattle Scabies--Additional Requirements on Cattle From Certain Designated Areas
85.75	Sheep
85.80	Diseased Animals
85.85	Copy of Health Certificate Shall Be Furnished
85.90	Requests for Permits
85.95	Consignments to Stockyards, Recognized Slaughtering Centers, or Marketing Centers
85.100	Obligation of Transportation Company and Truck Operators
85.105	Additional Requirements on Cattle From Designated States
85.110	Salmonella enteritidis serotype enteritidis
85.115	Cervidae
85.120	Ratites
85.125	Vesicular Stomatitis
85.130	

AUTHORITY: Implementing and authorized by the Illinois Diseased Animals Act [510 ILCS 50]; Section 6 of the Illinois Bovine Brucellosis Bradication Act [510 ILCS 30/6]; Livestock Auction Market Law [225 ILCS 640]; and Equine Infectious Anemia Control Act [510 ILCS 65].

SOURCE: Regulations Relating to Diseased Animals, filed January 17, 1972, effective January 27, 1972; filed August 19, 1975, effective August 29, 1975; filed December 29, 1976, effective January 8, 1977; amended at 2 Ill. Reg. 24, p. 12, effective June 15, 1978; amended at 3 Ill. Reg. 33, p. 337, effective

DEPARTMENT OF AGRICULTURE

NOTICE OF ADOPTED AMENDMENTS

August 17, 1979; amended at 5 Ill. Reg. 724, effective January 2, 1981; codified at 5 Ill. Reg. 10456; amended at 7 Ill. Reg. 1746, effective January 28, 1983; amended at 8 Ill. Reg. 5925, effective April 23, 1984; amended at 9 Ill. Reg. 4489, effective March 22, 1985; amended at 9 Ill. Reg. 18411, effective November 19, 1985; amended at 10 Ill. Reg. 20464, effective January 1, 1987; amended at 12 Ill. Reg. 8283, effective May 2, 1988; amended at 13 Ill. Reg. 3642, effective March 13, 1989; amended at 14 Ill. Reg. 1919, effective January 19, 1990; amended at 14 Ill. Reg. 15313, effective September 10, 1990; amended at 16 Ill. Reg. 11756, effective July 8, 1992; emergency amendment at 17 Ill. Reg. 14052, effective August 16, 1993, for a maximum of 150 days; amended at 18 Ill. Reg. 1850, effective January 24, 1994; emergency amendment at 19 Ill. Reg. 10734, effective July 10, 1995, for a maximum of 150 days; emergency expired December 17, 1995; amended at 20 Ill. Reg. 276, effective January 1, 1996; emergency amendment at 20 Ill. Reg. 6581, effective April 30, 1996, for a maximum of 150 days; amended at 20 Ill. Reg. 13039, effective SEP 25 1996.

Section 85.5 Definitions

Definitions for the rules of this Part are located in the general definitions Section (8 Ill. Adm. Code 20.1) and apply to the rules of this Part. The following definitions shall also apply to the rules of this Part:

"Accredited veterinarian" means a veterinarian who is licensed by the state in which he practices, is approved by the animal health authority of that state, and is accredited by the United States Department of Agriculture (9 CFR 160, 161 and 162; 1996 1995).

"Recognized slaughtering center" means an establishment where slaughtering is conducted under Federal or State inspection.

(Source: Amended at 20 Ill. Reg. 13039, effective SEP 25 1996.)

Section 85.10 Reportable Diseases

a) Suspected cases of the following diseases shall be reported immediately to the Department:

anthrax
avian influenza
bluetongue
brucellosis -- bovine, swine, equine, and caprine
contagious equine metritis
equine infectious anemia
equine viral encephalitis
fowl typhoid
hog cholera
infectious encephalomyelitis -- avian

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infectious laryngotracheitis
Mycoplasma gallisepticum -- turkeys
Mycoplasma synoviae -- turkeys
Newcastle disease
Paramyxovirus Infection
paratuberculosis -- (John's disease)
pituitary disease
pseudorabies -- (Aujeszky's disease)
psittacosis -- (ornithosis)
pullorum disease
rabies
salmonella enteritidis -- poultry
salmonella typhimurium -- poultry
scabies -- cattle and sheep
scrapie
tuberculosis -- bovine
vesicular conditions of any type
any contagious or infectious disease presently considered as "exotic", i.e., not known to exist in the United States
b) Any herd owner, flock owner, veterinarian or other person having knowledge of the disease, failing to report a suspect case of any of the above diseases immediately after discovery, or who is responsible for the spread of the disease, shall be subject to penalty as provided by law.
c) Reports of any of the above diseases shall be made to the Department, telephone 217/782-4944.

(Source: Amended at 20 Ill. Reg. 13039, effective SEP 25 1996.)

Section 85.15 Truck Cleaning and Disinfection

Any truck or other conveyance in which diseased livestock is transported shall be cleaned and disinfected immediately after the diseased livestock is unloaded as prescribed in the Code of Federal Regulations (9 CFR 71.7, 71.10 - 71.12; 1996 1995).

(Source: Amended at 20 Ill. Reg. 13039, effective SEP 25 1996.)

Section 85.40 Livestock for Immediate Slaughter Not to be Diverted En Route

All livestock consigned for slaughter within 10 days, from public stockyards, auction market, marketing center, livestock dealer or any other point where livestock are gathered at regular intervals for immediate slaughter within Illinois, shall be accompanied by slaughter permit and slaughtered within 10 days. All such animals shall be delivered direct to a recognized slaughtering center and shall not be diverted en route.

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(Source: Amended at 20 Ill. Reg. 13039, effective 6-25-90)

Section 85.50 Goats

- a) Part A -- Brucellosis in Goats
 - 1) When a serologic test for brucellosis in goats discloses one or more reactors, the entire herd shall be placed under quarantine and the reactor(s) immediately isolated from the remainder of the herd, reactor tagged and branded, and slaughtered. After removal of the reactor(s), the entire herd shall be retested at time intervals and the number of times as requested by the Department. The length of the quarantine period shall be determined by the Department.
 - 2) All brucellosis agglutination blood tests of goats shall be made at an approved laboratory.
- b) Part B -- Requirements for Establishing and Maintaining Certified Brucellosis-Free Herds of Goats
 - 1) General Requirements
 - A) Certified brucellosis-free herd certificates, which shall be valid for one year, unless revoked in accordance with the procedures as adopted by the United States Animal Health Association (P.O. Box K227, Suite 114, 1610 Forest Avenue, Richmond, Virginia 23228) and as outlined for cattle certificate revocation in the Brucellosis Eradication Uniform Methods and Rules, effective May 6, 1992, amended February 2, 1993, and June 16, 1994, published by the United States Department of Agriculture, Animal and Plant Health Inspection Service, shall be issued by the Department.
 - B) Certificates shall be extended for a period of one year upon evidence of a negative herd retest and compliance with all requirements for maintenance of a certified brucellosis-free herd.
 - C) A "herd" shall be considered as including all animals 6 months of age and over and shall consist of at least 5 animals.
 - D) All animals in the herd shall be identified by registration number, individual tattoo, or ear tag.
 - E) All official blood tests of goats shall be conducted at an approved laboratory.
 - 2) To Qualify for Certification
 - A) Herds shall be certified upon completion of 2 consecutive negative complete herd tests not less than 10 nor more than 14 months apart.
 - B) Animals classified as suspects, in herds that are otherwise negative, must be retested at 30-day intervals until their status has been determined. If the suspects are sold or otherwise disposed of before their status has been

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- determined, the entire herd must be retested to achieve a negative herd status. If the suspects are classified as reactors upon retest, the herd is considered to be infected. Diseased goats may only be consigned directly to a slaughtering facility and must be accompanied by a "Permit for Movement, VS Form 1-27".
- C) If on the initial herd test, or as a result of any retests of animals in the herd, one or more reactors are disclosed, the entire herd shall be placed under quarantine and the reactor(s) immediately isolated from the remainder of the herd, reactor tagged and branded, and slaughtered. After removal of the reactor(s), the entire herd shall be retested at time intervals and the number of times as requested by the Department. The length of the quarantine period shall be determined by the Department.
 - 3) To Qualify for Recertification
 - A) A negative herd test conducted within 60 days prior to the anniversary date is required for continuous certification. Upon receipt of a negative herd test, the Department shall extend certification for 12 months from the anniversary date.
 - B) If the annual test for recertification is conducted within 60 days following the anniversary date and all the animals are negative, certification will be restored and the certification period will be 12 months from the anniversary date.
 - C) If the annual test for recertification is not conducted within 60 days following the anniversary date, certification is cancelled and recertification requirements are then the same as for initial certification.
 - D) If suspects or reactors are disclosed on a recertification test, their disposition and herd retest requirements shall be the same as specified in Section 85.50(b)(2)(B) and (C).
 - E) All official blood tests of goats shall be conducted at an approved laboratory.
 - 4) Additions to Certified Brucellosis-Free Herds
 - A) Animals originating from other certified herds may be added without tests.
 - B) Animals originating from herds not certified may be added; provided, they are negative to an official brucellosis test within 60 days prior to addition, are held in isolation from other members of the certified herd for a minimum period of 30 days and are retested and negative at the end of this isolation period.
 - C) Purchased additions shall not receive new herd status for sale or exhibition purposes until they have been members of the herd for at least 30 days and are included in a complete herd retest.

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- c) Part C -- Requirements for Establishing and Maintaining Accredited Tuberculosis-Free Herds of Goats
- 1) General Requirements

A) Accredited tuberculosis-free herd certificates, which shall be valid for one year, unless revoked in accordance with the procedures outlined in the Bovine Tuberculosis Eradication Uniform Methods and Rules, effective February 3, 1989, Part III B, Accredited Herd Plan for Dairy Goats, shall be issued by the Department (9 CFR 77.1j + 1996 + 1995+).

B) Certificates may be extended for a period of one year upon evidence of a negative herd retest and compliance with all requirements for maintenance of an accredited tuberculosis-free herd.

C) A "herd" shall be considered as including all animals 12 months of age and over and shall consist of at least 5 animals.

D) All animals in the herd shall be identified by registration number, individual tattoo, or ear tag.

E) All official tuberculin tests shall be conducted by an accredited veterinarian or a veterinarian in the employ of the Illinois Department of Agriculture or the United States Department of Agriculture.

2) To Qualify for Accreditation

A) Herds shall be accredited upon completion of 2 consecutive negative complete herd tests not less than 10 nor more than 14 months apart.

B) If a reaction to the tuberculin test is disclosed, the veterinarian reading the test shall, within 24 hours, notify the Department by collect telephone call and make arrangements for a veterinarian trained in conducting the comparative-cervical test to retest the animal within 10 days of the original injection. If the animal is identified as a reactor as a result of the comparative-cervical test, personnel from either the Illinois Department of Agriculture or the United States Department of Agriculture will issue a quarantine, supervise disposition of animals, and conduct additional tests on members of the herd.

3) To Qualify for Reaccreditation

A) A negative herd test conducted within 60 days prior to the anniversary date is required for continuous accreditation. Upon receipt of a negative herd test, the Department shall extend accreditation for 12 months from the anniversary date.

B) If the annual test for reaccreditation is conducted within 60 days following the anniversary date, certification will be restored and the accreditation period will be 12 months from the anniversary date.

C) If the annual test for reaccreditation is not conducted

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within 60 days following the anniversary date, accreditation is cancelled and reaccreditation requirements apply then the same as for initial accreditation.

D) If a reaction to the tuberculin test is disclosed at the time of the reaccreditation test, the procedure outlined in Section 85.50(b)(2)(B) shall be followed.

4) Additions to Accredited Tuberculosis-Free Herds

A) Animals originating from other accredited herds may be added without tests.

B) Animals originating from herds not accredited may be added; provided, they are negative to an official test for tuberculosis within 60 days prior to addition and are retested and negative to an official tuberculin test not sooner than 60 days from the date the previous test was conducted.

C) Purchased additions shall not receive new herd status for sale or exhibition purposes until they have been members of the herd for at least 60 days and are included in a complete herd retest.

D) Part D -- Other Contagious Diseases. All goats, including dairy goats, will not be allowed to be exhibited in Illinois and must be removed immediately from the exhibition area if showing signs of any of the following conditions:

- 1) Lesions of contagious ecthyma (sore mouth).
- 2) Active lesions of ringworm with resulting loss of hair.
- 3) Caseous lymphadenitis as evidenced by draining abscesses.

(Source: Amended at 20 Ill. Reg. 13039, effective SEP 25 1996)

Section 85.75 Cattle Scabies -- Additional Requirements on Cattle from Certain Designated Areas

a) A prior permit must be obtained from the Department before cattle, except those consigned direct to slaughter, may enter Illinois from certain designated areas determined to have high incidence of cattle scabies. The Director of the Department shall have authority to specify the designated areas from which movement of cattle into Illinois will be restricted.

b) Cattle from such areas, except those consigned to a recognized exhibition and moved from Illinois following exhibition (county and State fairs, other State-supported exhibitions, and breed registry exhibitions); dairy cattle; or those consigned direct to slaughter, shall be dipped for cattle scabies within 10 days prior to entry or treated in accordance with the procedures as set forth in 9 CFR 73.12 (1996 + 1995).

c) Each such animal shall be treated with a solution of approved acaricide and water or other method of treatment approved by the

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United States Department of Agriculture (9 CFR 73.10 and 73.12; 1996 & 1995).

(Source: Amended at 20 Ill. Reg. 13039, effective SEP 25 1996)

Section 85.100 Consignments to Stockyards, Recognized Slaughtering Centers, or Marketing Centers

- a) All out-of-state livestock consigned to a public stockyard, recognized slaughtering center, or marketing center shall be accompanied from point of origin by a permit issued by the Department, or by a consignment issued by the owner or shipper of the livestock, designating the name of the owner or shipper, place of origin, public stockyard, recognized slaughtering center, or marketing center of destination, date of shipment, and number and description of livestock and shall not be diverted en route.
- b) A copy of the consignment shall be held by the public stockyard, recognized slaughtering center, or marketing center for a period of not less than 6 months for inspection by legally authorized officials of the United States Department of Agriculture, and the Illinois Department of Agriculture, and other officials having police powers. [225 ILCS 640/1]

(Source: Amended at 20 Ill. Reg. 13039, effective SEP 25 1996)

Section 85.105 Obligation of Transportation Company and Truck Operators

- a) Before accepting any livestock or dogs for shipment into the State of Illinois or consigned to points within the State of Illinois, except to public stockyards, every person, transportation company, or truck operator shall require that a certificate of health or OR permit, or any other forms required to accompany animals or poultry as required in the regulations of the Department, be furnished them to be attached to the consignment and accompany the livestock or dog to its destination. Such person, transportation company, or truck operator shall have the certificate of health OR permit in his or its possession at all times from the loading of such livestock to the delivery of the livestock at its destination, and available for inspection upon demand. Such consignment shall show date, names of consignor and consignee, number and description of animals, and shall accompany all animals consigned to public stockyards.
- b) No livestock shall be diverted en route within the State or consigned to points out of the State. When severe weather conditions, closures for any reason of slaughter plants, stockyards or auction markets, or other extenuating circumstances arise and/or the welfare of the livestock being shipped warrants such, a special permit for diversion

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en route ~~enroute~~ shall be granted by the Department.

(Source: Amended at 20 Ill. Reg. 13039, effective SEP 25 1996)

Section 85.115 Salmonella enteritidis serotype enteritidis

- a) The United States Department of Agriculture has declared Salmonella enteritidis serotype enteritidis as a communicable disease in poultry. The rules pertaining to Salmonella enteritidis serotype enteritidis located at 9 CFR 82.30-82.36; (1996) 1995 are hereby adopted for the State of Illinois. The flocks affected by these regulations are those identified in 9 CFR 82.31.
- b) All flocks found to be infected with Salmonella enteritidis serotype enteritidis shall be quarantined. The quarantine shall remain in effect until the flock has been depopulated and premises disinfected as prescribed in 9 CFR 82.32(c) or the entire flock is tested negative for Salmonella enteritidis serotype enteritidis in accordance with the provisions of 9 CFR 82.32(e).
- c) Interstate movement of poultry, eggs, equipment and manure from infected or test flocks shall be as specified in 9 CFR 82.33. Intrastate movement requirements shall be the same as interstate movement requirements.
- d) If a flock is determined to be an infected flock as defined in 9 CFR 82.32(c), the Department shall pay indemnity if State funds are available and all of the following conditions are met:
 - 1) The infected flock is implicated through epidemiological evidence in a human disease outbreak;
 - 2) The flock owner voluntarily agrees to depopulate with appropriate State indemnity;
 - 3) The entire flock which is to be depopulated shall have originated from a flock that is classified "U.S. S. Enteritidis" under the National Poultry Improvement Plan and Auxiliary Provisions (9 CFR 145 and 147; 1996 1995);
 - 4) The flock owner must have been feeding the infected flock in accordance with the provisions of the National Poultry Improvement Plan and Auxiliary Provisions (9 CFR 145.23(d); 1996 1995);
 - 5) The infected flock shall be slaughtered in accordance with 9 CFR 82.33(b). Proof of kill will be reported to the Department by the meat and poultry inspector of the slaughtering establishment where the infected poultry is slaughtered;
 - 6) The premises has been disinfected in accordance with 9 CFR 82.32(c); and
 - 7) Replacement poultry shall be from flocks that are classified "U.S. S. Enteritidis" under the National Poultry Improvement Plan and Auxiliary Provisions.
- e) The amount of indemnity paid, based on the availability of State

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funds, shall be 75 percent of the fair market value and the health thereof at the time of slaughter, minus the salvage value. The following conditions shall be considered when determining the fair market value and health of the infected flock:

- 1) Initial purchase price of each bird;
- 2) Age of the bird and its egg production capabilities or value for producing progeny; and
- 3) Feed and veterinary medical production costs as justified by documentation by the flock owner in the form of sales receipts and veterinary bills.

f) The Department and the infected flock owner must agree upon the value of the poultry destroyed, and in the case as agreement cannot be made, indemnity will not be paid for the flock.

(Source: Amended at 20 Ill. Reg. 13039, effective SEP 25 1996)

Section 85.125 Ratites

a) All ratites (i.e., emus, kiwis, cassowaries, rheas, ostriches) entering Illinois shall comply with the following:

- 1) Be negative to a test for Avian influenza within 10 days prior to importation;
- 2) Be accompanied by a Certificate of Veterinary Inspection issued within the past 30 days by an accredited veterinarian of the state of origin or a veterinarian in the employ of the United States Department of Agriculture indicating that the ratites are free from visible evidence of any contagious, infectious, or communicable disease or exposure thereto;
- 3) Be permanently identified by means of a leg band, wing band, neck band or microchip; and
- 4) Be accompanied by a permit issued by the Department. The permit number shall be issued to the veterinarian issuing the Certificate of Veterinary Inspection or the consignor of the ratites.

A) Applicant for the permit shall furnish the following information to the Department:
Name and address of Illinois destination;
Name and address of consignor; and
Number of ratites in shipment.

B) Grounds for refusal to issue a permit are:

- i) Violation of the Act or any rule of this Part; and
- ii) Presence of a disease which might endanger the Illinois poultry industry.

b) Ratites imported into Illinois must be kept isolated from other ratites or poultry on the premises for a minimum of 14 days.

(Source: Amended at 20 Ill. Reg. 13039, effective

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SEP 25 1996)

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- 1) Heading of the Part: Licensing
- 2) Code Citation: 11 Ill. Adm. Code 502
- 3) Section Number: 502.320 Adopted Action: Amendment
- 4) Statutory Authority: 230 ILCS 5/9(b)
- 5) Effective Date of Rule: October 1, 1996
- 6) Does this rulemaking contain an automatic repeal date? No
- 7) Does this amendment contain incorporation by reference? No
- 8) Date filed in Agency's Principal Office: September 19, 1996
- 9) Notice of Proposal Published in Illinois Register: 20 Ill. Reg. 8447 - June 28, 1996
- 10) Has JCAR issued a Statement of Objections to this rule? No
- 11) Differences between proposal and final version: Added Subpart Heading above Section number and title pursuant to request by JCAR.
- 12) Have all the changes agreed upon by the agency and JCAR been made as indicated in the letter issued by JCAR? Yes
- 13) Will these amendments replace emergency amendments currently in effect?
No
- 14) Are there any other proposed amendments pending in this Part? Section 502.830 published at 20 Ill. Reg. 1174 on January 19, 1996.
- 15) Summary and purpose of rules: This rulemaking establishes what licensees are permitted to perform equine dental work and under what circumstances the work may be performed. This amendment was prepared by the Department of Professional Regulation pursuant to the Veterinary Medicine and Surgery Act of 1994 (225 ILCS 115/1 et seq.).
- 16) Information and questions regarding these adopted amendments shall be directed to:
Gina DiCaro,
Illinois Racing Board, Legal Department
100 West Randolph, Suite 11-100
Chicago, Illinois 60601
(312) 814-5070

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The full text of the adopted amendments begins on the next page:

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TITLE 11: ALCOHOL, HORSE RACING, AND LOTTERY

SUBTITLE B: HORSE RACING

CHAPTER 1: ILLINOIS RACING BOARD

SUBCHAPTER c: RULES APPLICABLE TO ALL OCCUPATION LICENSEES

PART 502
LICENSING

SUBPART A: PROCEDURE

Section

502.10 Submission of Application
 502.20 Complete Application
 502.30 License Fees
 502.40 Duration and Extent of Occupation Licenses
 502.50 Rulings and Hearings
 502.55 Denial of License
 502.58 License to Participate

SUBPART B: STATUTORY GROUNDS FOR DENIAL OF A LICENSE

Section

502.60 Denial of a License for Criminal Conviction
 502.72 First-time Applicant Who Has Been Convicted of a Crime
 502.76 Prohibitions Against Persons on Conditional Discharge, Parole, Probation or Supervision
 502.78 Probationary Nature of Licenses
 502.80 Unqualified to Perform the Duties
 502.90 Falsifying Answers or Omitting Facts
 502.100 Just Cause
 502.102 Burden of Going Forward
 502.104 Denial of a License for Just Cause in Illinois or in Another Racing Jurisdiction

SUBPART C: GENERAL CRITERIA

Section

502.110 Criteria for Determining Eligibility
 502.115 Standards Required of All Applicants

SUBPART D: OWNERS

Section

502.120 Owners

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SUBPART E: TRAINERS AND ASSISTANT TRAINERS

Section

502.200 Trainers and Assistant Trainers
 502.210 Prospective Trainers or Assistant Trainers
 502.220 Workers' Compensation

SUBPART F: JOCKEYS AND APPRENTICE JOCKEYS

Section

502.230 Jockeys and Apprentice Jockeys
 502.235 Apprentice Jockeys, Criteria for Eligibility
 502.238 Apprentice Contract or Certificate

SUBPART G: DRIVERS

Section

502.250 Harness Driver
 502.260 Prospective Harness Drivers
 502.270 "Q" Licenses
 502.280 "P" Licenses
 502.290 "A" Licenses

SUBPART H: OTHER LICENSEES

Section

502.300 Veterinarians
 502.320 Veterinary Assistant
 502.350 Farriers (Blacksmiths)
 502.380 Exercise Riders
 502.400 Pony Person
 502.450 Stable Foreman
 502.500 Jockey Agents
 502.600 Authorized Agents
 502.650 Tack Shop Operators and Other Vendors
 502.660 Vendor Helper
 502.680 Thoroughbred Grooms
 502.690 Harness Grooms
 502.700 Hotwalker
 502.790 Totalizator Employee

SUBPART I: CONFLICTS OF INTEREST

Section

502.800 General Provision
 502.820 Dual Licensing

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- 502.830 Limitations on License
 502.840 Husbands and Wives
 502.850 Transfer of a Horse

AUTHORITY: Authorized by Section 9(b) of the Illinois Horse Racing Act of 1975 [230 ILCS 5/9(b)].

SOURCE: Emergency rule adopted and codified at 6 Ill. Reg. 9711, effective July 27, 1982, for a maximum of 150 days; adopted and codified at 6 Ill. Reg. 13786, effective October 25, 1982; amended at 7 Ill. Reg. 5225, effective April 1, 1983; amended at 11 Ill. Reg. 20611, effective January 1, 1988; amended at 13 Ill. Reg. 1562, effective January 23, 1989; amended at 13 Ill. Reg. 4931, effective March 22, 1989; amended at 14 Ill. Reg. 17641, effective October 16, 1990; amended at 15 Ill. Reg. 11985, effective August 12, 1991; amended at 16 Ill. Reg. 12774, effective July 31, 1992; amended at 17 Ill. Reg. 19961, effective November 9, 1993; amended at 18 Ill. Reg. 11615, effective July 7, 1994; amended at 19 Ill. Reg. 5034, effective April 1, 1995; amended at 19 Ill. Reg. 17190, effective January 1, 1996; amended at 20 Ill. Reg. 13052, effective 10/00.

SUBPART H: OTHER LICENSEES

Section 502.320 Veterinary Assistant

- a) An applicant for a license as a veterinary assistant shall establish an offer of employment by a veterinarian licensed by the Board by obtaining the signature of the veterinarian on the license application, and the veterinarian will supervise the applicant.
- b) A veterinary assistant shall be permitted to practice equine dentistry only under the following circumstances:
- 1) The services of the veterinary assistant are retained by a licensed veterinarian under the employment agreement or an independent contract;
 - 2) The contract for service is between the veterinarian and the client;
 - 3) Fees for services are paid by the client to the licensed veterinarian;
 - 4) Payment to the veterinary assistant is made by the veterinarian;
 - 5) The veterinarian's billing records indicate the nature of the work performed;
 - 6) The work is performed under the veterinarian's general supervision; and
 - 7) The veterinarian is in a position to give such supervision as deemed necessary.
- a) document-evidence-of-an-offer-of-employment-by-a-veterinarian-licensed by--the-Board-before-being-granted-a-license--Such-offer-shall-be

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established-by--the--signature--on--the--license--application--of--the veterinarian-who-has-actually-offered-such-employment--or submit--together--with--the--application--an--affidavit--from--a veterinarian-licensed-by-the-Board-indicating-that--the--affiant--will provide-immediate-supervision-to-the-applicant.

(Source: Amended at 20 Ill. Reg. 13052, effective 10/00)

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- 1) Heading of the Part: Officials of the Meeting
- 2) Code Citation: 11 Ill. Adm. Code 1403
- 3) Section Numbers: Adopted Action:
1403.68 Repeal
- 4) Statutory Authority: 230 ILCS 5/9(b)
- 5) Effective Date of Rule: October 1, 1996
- 6) Does this rulemaking contain an automatic repeal date? No
- 7) Does this amendment contain incorporation by reference? No
- 8) Date filed in Agency's Principal Office: September 19, 1996
- 9) Notice of Proposal Published in Illinois Register: 20 Ill. Reg. 8453-June 28, 1996
- 10) Has JCAR issued a Statement of Objections to this rule? No
- 11) Difference between proposal and final version: Deleted comma after "Racing" in the Source note pursuant to a request by JCAR.
- 12) Have all the changes agreed upon by the agency and JCAR been made as indicated in the letter issued by JCAR? Yes
- 13) Will these amendments replace emergency amendments currently in effect? No
- 14) Are there any other proposed amendments pending in this Part? No
- 15) Summary and purpose of rules: This repeal was done in conjunction with the proposed amendment to Section 502.320. The proposed amendment to Section 502.320 specifically details what license categories are permitted to perform equine dentistry and the circumstances under which those services may be performed.
- 16) Information and questions regarding these adopted amendments shall be directed to:

Gina DiCaro,
Illinois Racing Board, Legal Department
100 West Randolph
Suite 11-100
Chicago Illinois 60601
(312) 814-5070

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The full text of the adopted amendment begins on the next page:

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TITLE 11: ALCOHOL, HORSE RACING, AND LOTTERY

CHAPTER I: ILLINOIS RACING BOARD

SUBCHAPTER 9: RULES AND REGULATIONS OF HORSE RACING (THOROUGHBREED)

PART 1403

OFFICIALS OF MEETING

Section	
1403.10	Designation of Officials
1403.20	Wagering Prohibited
1403.30	Patrol Judges
1403.40	Leaving Employment
1403.60	State Veterinarians Report Examinations
1403.63	Veterinarians' List
1403.66	Reports at Close of Meeting
1403.68	Dental Work on Horse <u>(Repealed)</u>
1403.70	Paddock Judge
1403.74	Inspection of Bandages
1403.77	Ice Bandages
1403.80	Jockey Room Custodian

AUTHORITY: Implementing and authorized by Section 9(b) of the Illinois Horse Racing Act of 1975 (230 ILCS 5/9(b)).

SOURCE: Published in Rules and Regulations of Horse Racing (original date not cited in publication); amended November 17, 1977, filed December 29, 1977; codified at 5 Ill. Reg. 10962; amended at 20 Ill. Reg. 13058 effective June 1, 1996.

Section 1403.68 Dental Work on Horse (Repealed)

~~No person shall practice dentistry or work on the teeth or gums of any horse on an Illinois race track unless he is licensed by the Board and the state as a veterinarian.~~

(Source: Repealed at 20 Ill. Reg. 13058, effective June 1, 1996.)

DEPARTMENT OF REVENUE

NOTICE OF ADOPTED RULES

1) Heading of the Part: General Rules for All Taxes2) Code Citation: 86 Ill. Adm. Code 800

3) Section Numbers: Adopted Action:
800.1000 New Section
800.4000 New Section

4) Statutory Authority: 20 ILCS 2505/39b195) Effective Date of Rulemaking: September 24, 19966) Does this rulemaking contain an automatic repeal date? No7) Does this rulemaking contain incorporations by reference? No8) Date Filed in Agency's Principal Office: September 24, 19969) Notice of Proposal Published in Illinois Register: March 29, 1996, 20 Ill. Reg. 503810) Has JCAR issued a Statement of Objections to these rules? YesA) Statement of Objection: July 12, 1996, 20 Ill. Reg. 9387B) Agency Response: _____, Ill. Reg. _____C) Date Agency Response Submitted for Approval to JCAR: September 23, 199611) Difference(s) between proposal and final version: No changes were made.12) Have all the changes agreed upon by the agency and JCAR been made as indicated in the agreement letter issued by JCAR? No13) Will this rulemaking replace an emergency rule currently in effect? No14) Are there any amendments pending on this Part? No

15) Summary and Purpose of Rulemaking: This rulemaking creates a new Part "General Rules for All Taxes". There are a number of issues with respect to tax administration that are not limited to any particular tax. Some of these issues do not fall within the scope of Title 2 of the Illinois Administrative Code and must be adopted in conformance with the normal rulemaking procedures of the Illinois Administrative Procedure Act. This Part is being created to contain those rules.

The first rulemaking of this type relates to recent legislation that

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authorizes the Illinois Department of Revenue to adopt rules to authorize the filing of returns or other documents with the Department by facsimile. This rulemaking sets forth the circumstances under which the Department will request that taxpayers file returns or other documents by facsimile. The rule also requires that the original of any return or other document filed by facsimile must be retained by the taxpayer and is subject to the Department's right of audit.

16) Information and questions regarding these adopted rules shall be directed to:

Name: Keith Staats
Address: Associate Chief Counsel - Income Tax
Illinois Department of Revenue
Legal Services
101 West Jefferson
Springfield, Illinois 62794
Telephone: (217)782-6996

The full text of the Adopted Rule begins on the next page:

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TITLE 86: REVENUE
CHAPTER 1: DEPARTMENT OF REVENUE

PART 800
GENERAL RULES FOR ALL TAXES

Section
800.1000 Introduction
800.4000 Filing Returns and Other Documents by Facsimile

AUTHORITY: Implementing Section 39c-1b of the Civil Administrative Code of Illinois [20 ILCS 2505/39c-1b] and authorized by Section 39b19 of the Civil Administrative Code of Illinois [20 ILCS 2505/39b19].

SOURCE: Adopted at 20 Ill. Reg. 13061, effective SEP 24 1996.

Section 800.1000 Introduction

There are a number of issues with respect to tax administration that are not related to any particular tax. Many of those provisions are contained in 2 Ill. Adm. Code 1200. However, there are a number of issues that apply generally to all taxes administered by the Illinois Department of Revenue (the "Department") that do not fall within the scope of Title 2 of the Illinois Administrative Code and, as a result, must be adopted in conformance with the normal rulemaking requirements of the Illinois Administrative Procedure Act (the "IAPA") [5 ILCS 100]. This Part codifies the rules of the Department that are not tax-specific.

Section 800.4000 Filing Returns and Other Documents by Facsimile

- a) Consistent with rules adopted by the Department of Revenue, a person may transmit by facsimile any return or document required to be filed with the Department under any Act administered by the Department. A signature on a return or other document filed in accordance with regulations promulgated by the Department and transmitted by facsimile is prima facie evidence for all purposes that the document was actually signed by the person whose signature appears on the facsimile. [20 ILCS 2505/39c-1b]
- b) On certain rare occasions, circumstances will arise that will make it very difficult or impossible for the Department to receive returns or other documents from taxpayers within the normal time frames required by delivery through the postal service or other private mail service. On some of these occasions, taxpayers will also be unable to personally deliver the return or document to the Department. Therefore, upon request of the Department, taxpayers may submit a facsimile of any tax return or other document, by telefax or any other method of facsimile transmission authorized by the Department. In

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such cases, the original return or other tax document must be maintained by the taxpayer subject to the Department's right of audit. Such requests do not relieve taxpayers from requirements to file in the usual manner (paper, electronic, teletype, etc.) for other periods. There is, however, no limit on the number of times such permission can be granted.

- c) Taxpayers may only file returns or other documents by facsimile upon the request of the Department. The Department will not accept requests for permission to file returns or other documents by facsimile from any taxpayer or taxpayer representative. Any return or other document transmitted to the Department by facsimile for a reason other than upon Department request will not be accepted, and in the case of returns will be deemed to be non-filed and will subject the taxpayer to the penalty for non-filing set forth in Section 3-3 of the Uniform Penalty and Interest Act [35 ILCS 735/3-3].

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- 1) Heading of the Part: Special County Retailers' Occupation Tax for Public Safety

- 2) Code Citation: 86 Ill. Adm. Code 670

- 3) Section Numbers:
 670.101 New Section
 670.105 New Section
 670.110 New Section
 670.115 New Section
 670.120 New Section
 670.125 New Section
 670.130 New Section

- 4) Statutory Authority: 20 ILCS 2805/39b19

- 5) Effective Date of Rulemaking: September 24, 1996

- 6) Does this rulemaking contain an automatic repeal date? No

- 7) Does this rulemaking contain incorporations by reference? No

- 8) Date Filed in Agency's Principal Office: September 24, 1996

- 9) Notice of Proposal Published in Illinois Register: June 21, 1996, 20 Ill. Reg. 8282

- 10) Has JCAR issued a Statement of Objections to these rules? No

- 11) Difference(s) between proposal and final version: In lines 232-233, changed "are incorporated herein by reference and made a part hereof" to "shall apply to the tax imposed pursuant to this Part".

- 12) Have all the changes agreed upon by the agency and JCAR been made as indicated in the agreement letter issued by JCAR? Yes

- 13) Will this rulemaking replace an emergency rule currently in effect? No

- 14) Are there any amendments pending on this Part? No

- 15) Summary and Purpose of Rulemaking: This rulemaking implements Public Act 89-107, which creates the Special County Occupation Tax for Public Safety Law, which provides that the County Board of any county with a population in excess of 180,000 inhabitants may impose a tax upon persons engaged in the business of selling tangible personal property, other than personal property titled or registered, at retail in the county on the gross receipts from such sales to provide revenue to be used exclusively for public safety purposes in that county. It also contains provisions

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concerning the nature and rate of the tax, returns, etc.

16) Information and questions regarding this adopted rule shall be directed to:

Gina Roccaforte
Associate Counsel
Illinois Department of Revenue
Legal Services Office
101 West Jefferson
Springfield, Illinois 62794
Phone: (217) 782-6996

The full text of the Adopted Rules begins on the next page:

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TITLE 86: REVENUE
CHAPTER I: DEPARTMENT OF REVENUE

PART 670

SPECIAL COUNTY RETAILERS' OCCUPATION TAX FOR PUBLIC SAFETY

Section	Nature of the Special County Retailers' Occupation Tax For Public Safety
670.101	Safety
670.105	Registration and Returns
670.110	Claims to Recover Erroneously Paid Tax
670.115	Jurisdictional Questions
670.120	Incorporation of Retailers' Occupation Tax Regulations by Reference
670.125	Penalties, Interest and Procedures
670.130	Effective Date

AUTHORITY: Implementing Section 5-1006.5 of the Special County Occupation Tax For Public Safety Law of the Counties Code [55 ILCS 5/5-1006.5] and authorized by Section 39b29 of the Civil Administrative Code of Illinois [20 ILCS 2505/39b29].

SOURCE: Adopted at 20 Ill. Reg. 13065, effective SEP 24 1996.

Section 670.101 Nature of the Special County Retailers' Occupation Tax For Public Safety

a) Authority to Impose Tax

The County Board of any county with a population in excess of 180,000 inhabitants, as determined by the most recent decennial census, is authorized by Section 5-1006.5 of the Counties Code [55 ILCS 5/5-1006.5] (the Code) to impose a tax on all persons engaged in the business of selling tangible personal property, other than an item of tangible personal property titled or registered with this State's government, at retail in the county on the gross receipts from sales made in the course of such business to provide revenue to be used exclusively for public safety purposes in that county, if a proposition for the tax has been submitted to the electors of that county and approved by a majority of those voting on the question. If imposed, such tax shall only be imposed in 1/4% increments. This additional tax may not be imposed on the sales of food for human consumption which is to be consumed off the premises where it is sold (other than alcoholic beverages, soft drinks and food which has been prepared for immediate consumption) and prescription and non-prescription medicines, drugs, medical appliances and insulin, urine testing materials, syringes and needles used by diabetics (Section 5-1006.5 of the Code). The tax imposed by a county under the

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Code and this Part, and all civil penalties that may be assessed as an incident thereof, shall be collected and enforced by the Illinois Department of Revenue (Department).

b) Passing on the Tax

The legal incidence of the Special County Retailers' Occupation Tax For Public Safety is on the seller. Nevertheless, the General Assembly has authorized persons subject to any tax imposed pursuant to the authority granted in the Special County Retailers' Occupation Tax For Public Safety Law to reimburse themselves for their sellers' Special County Retailers' Occupation Tax For Public Safety liability by separately stating such tax as an additional charge, which charge may be stated in combination, in a single amount, with State tax which sellers are required to collect under the Use Tax Act [35 ILCS 1051], pursuant to such bracket schedules as the Department has prescribed (see 86 Ill. Adm. Code 150.7 Table A).

c) Exclusion from "Gross Receipts"

Any amount added to the selling price of tangible personal property by the seller because of a Special County Retailers' Occupation Tax For Public Safety, or because of the Illinois Retailers' Occupation Tax, or as Illinois Use Tax, and collected from the purchaser, shall not be regarded as a part of the seller's gross receipts that are subject to such Special County Retailers' Occupation Tax For Public Safety.

Section 670.105 Registration and Returns

a) Separate Registration not Required

A retailer's registration under the Illinois Retailers' Occupation Tax Act [35 ILCS 120] is sufficient for the Special County Retailers' Occupation Tax For Public Safety Law. No special registration for the Special County Retailers' Occupation Tax For Public Safety is required.

b) Requirements as to Returns

- 1) The information required for the Special County Retailers' Occupation Tax For Public Safety shall be furnished on the retailer's Retailers' Occupation Tax return form.
- 2) If the retailer files his Illinois Retailers' Occupation Tax returns on the gross receipts basis, he must report Special County Retailers' Occupation Tax For Public Safety information in his returns on the same basis. If the retailer files his Illinois Retailers' Occupation Tax returns on the gross sales basis, he must report Special County Retailers' Occupation Tax For Public Safety information in his returns on the gross sales basis.

Section 670.110 Claims to Recover Erroneously Paid Tax

Claims for Multiple Taxes. If a claimant files a claim for refund on a transaction which was subject to State and local taxes administered by the

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Department, the claim need not be filed separately for each type of tax. A single claim for the total of all applicable taxes will suffice. The claim will be audited, heard, or otherwise processed as a single claim whenever possible. A single credit memorandum will be issued which may be used by the claimant or his authorized assignee to pay State or local tax liability.

Section 670.115 Jurisdictional Questions

a) County Defined

When used in this Part, "county" includes all territory located within the county, including all territory within cities, villages or incorporated towns, including an incorporated town which has superseded a civil township.

b) Mere Solicitation of Orders not Doing Business

1) For a seller to incur Special County Retailers' Occupation Tax For Public Safety liability in a given county, the sale must be made in the course of such seller's engaging in the retail business within such county. In other words, enough of the selling activity must occur within the county to justify concluding that the seller is engaged in business within the county with respect to that sale.

2) For example, the Supreme Court has held the mere solicitation and receipt of orders within a taxing jurisdiction (the State), where such orders were subject to acceptance outside the taxing jurisdiction and title passed outside such jurisdiction, with the goods being shipped from outside such jurisdiction to the purchaser in such jurisdiction, did not constitute engaging in the business of selling within such jurisdiction. This conclusion was reached independently of any question of interstate commerce and so would apply to a county as the taxing jurisdiction as much as to the State as the taxing jurisdiction.

c) Seller's Acceptance of Order

1) Without attempting to anticipate every kind of fact situation that may arise in this connection, it is the Department's opinion, in general, that the seller's acceptance of the purchase order or other contracting action in the making of the sales contract is the most important single factor in the occupation of business within the county or by someone who is working out of business within the county and does not conduct the business of selling elsewhere within the meaning of subsections (g) and (h) of this Section, or if a purchase order which is an acceptance of the seller's complete and unconditional offer to sell is received by the seller's place of business within the county or by someone working out of such place of business, the seller incurs Special County Retailers' Occupation Tax For Public Safety liability in that county if the sale is at retail and the purchaser receives the physical possession of the property in Illinois. The

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Department will assume that the seller has accepted the purchase order at the place of business at which the seller receives such purchase order from the purchaser in the absence of clear proof to the contrary.

- 2) If a purchase order is accepted outside this State, but the tangible personal property which is sold is in an inventory of the retailer located within a county at the time of its sale (or is subsequently produced in Illinois), then delivered in Illinois to the purchaser, the place where the property is located at the time of the sale (or subsequent production in Illinois) will determine where the seller is engaged in business for Special County Retailers' Occupation Tax For Public Safety purposes with respect to such sale.

- d) Some Considerations that are not Controlling

- 1) Delivery of the property within the county to the purchaser is not necessary for the seller to incur Special County Retailers' Occupation Tax For Public Safety liability. It is sufficient that the purchaser receives the physical possession of the property somewhere in Illinois as far as the question of delivery is concerned. This is true because there is no exemption for intercounty commerce comparable to the exemption arising from interstate commerce, and it is not necessary for delivery to be completed within the county for the seller to be regarded as being engaged in the business of selling within such county with respect to that sale.

- 2) The point at which the tangible personal property will be used or consumed and the place at which the purchaser resides are also immaterial in determining whether or not the seller incurs Special County Retailers' Occupation Tax For Public Safety liability. Furthermore, the place at which the technical sale occurs (i.e., the place at which title passes) is not a decisive consideration since the phrase "in the county" in the Special County Retailers' Occupation Tax For Public Safety Law refers only to the location of the occupation of selling that is being taxed and not to the place where sales may be made. (See Standard Oil Company v. Department of Finance, et al., 383 Ill. 136 (1934), for a similar problem under the Illinois Retailers' Occupation Tax Act.)

- e) Place of Business Where Long Term or Blanket Contracts are Involved Under a long term blanket or master contract which (though definite as to price and quantity) must be implemented by the purchaser's placing of specific orders when goods are wanted, the seller's place of business with which such subsequent specific orders are placed (rather than the place where the seller signed the master contract) will determine where the seller is engaged in business for Special County Retailers' Occupation Tax For Public Safety purposes with respect to such orders.

- f) Sales Through Vending Machines

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The seller's place of engaging in business when making sales through a vending machine is the place where the vending machine is located when such sales are made.

- g) Sales from Vehicles Carrying Uncommitted Stock of Goods The seller's place of engaging in business when making sales and deliveries (not just deliveries pursuant to previously accepted orders, but actual sales and deliveries) from a vehicle in which a stock of goods is being carried for sale is the place at which such sales and deliveries happen to be made - the vehicle carrying such stock of goods for sale being regarded as a portable place of business.

- h) Sales of Coal or Other Minerals

For the purpose of determining the local governmental unit whose tax is applicable, a retail sale, by a producer of coal or other mineral mined in Illinois, is a sale at retail at the place where the coal or other mineral mined in Illinois is extracted from the earth.

- 1) A retail sale is a sale to a user, such as a railroad, public utility or other industrial company, for use. "Mineral" includes not only coal, but also oil, sand, stone taken from a quarry, gravel and any other thing commonly regarded as a mineral and extracted from the earth.

- 2) A mineral produced in Illinois, but shipped out of Illinois by the seller for use outside Illinois, will generally be tax exempt under the Commerce Clause of the Federal Constitution (i.e., as a sale in interstate commerce). This exemption does not extend, however, to sales to carriers, other than common carriers by rail, for their own use outside Illinois if the purchasing carrier takes delivery of the property in Illinois and transports it over its own line to an out-of-State destination.

- 3) A sale by a mineral producer to a wholesaler or retailer for resale would not be a retail sale by the producer and so would not be taxable. The taxable sale (the retail sale) is the final sale to the user, and the Special County Retailers' Occupation Tax For Public Safety on that sale will go to the county where the retailer is located.

Section 670.120 Incorporation of Retailers' Occupation Tax Regulations by Reference

To avoid needless repetition, the substance and provisions of all Retailers' Occupation Tax Regulations (86 Ill. Adm. Code 130) which are not incompatible with the Special County Retailers' Occupation Tax For Public Safety Law or any special Regulations that may be promulgated by the Department thereunder shall apply to the tax imposed pursuant to this Part.

Section 670.125 Penalties, Interest and Procedures

All penalties (both civil and criminal), provisions concerning interest and

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procedures (such as the making of assessments, the venue and mode of conducting hearings, subpoenas, matters pertaining to judicial review and other procedural subjects), together with statutes of limitation, are the same under the Special County Retailers' Occupation Tax For Public Safety Law as under the Illinois Retailers' Occupation Tax Act [35 ILCS 120].

Section 670.130 Effective Date

An ordinance or resolution imposing or discontinuing or effecting a change in the rate of a tax imposed under the Special County Retailers' Occupation Tax For Public Safety Law shall be adopted and a certified copy thereof filed with the Department on or before the first day of June, whereupon the Department shall proceed to administer and enforce the ordinance or resolution as of the first day of January next following such adoption and filing. For this purpose, the date of the sale is deemed to be the date of the delivery of the property.

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NOTICE OF ADOPTED RULES

1) Heading of the Part: Special County Service Occupation Tax For Public Safety

2) Code Citation: 86 Ill. Adm. Code 680

3) Section Numbers:	Adopted Action:
680.101	New Section
680.105	New Section
680.110	New Section
680.115	New Section
680.120	New Section
680.125	New Section
680.130	New Section

4) Statutory Authority: 20 ILCS 2805/39b19

5) Effective Date of Rulemaking: September 24, 1996

6) Does this rulemaking contain an automatic repeal date? No

7) Does this rulemaking contain incorporations by reference? No

8) Date Filed in Agency's Principal Office: September 24, 1996

9) Notice of Proposal Published in Illinois Register: June 21, 1996, 20 Ill. Reg. 8290

10) Has JCAR issued a Statement of Objections to these rules? No

11) Difference(s) between proposal and final version:

1. Deleted all underlining in text.
2. Corrected authority note.
3. In line 23, capped "county board".
4. In lines 52-53, moved period to after parenthetical and lowercase "see".
5. In line 119-120, added "tax imposed under the" after "a"; added "Law" after "Safety".
- 12) Have all the changes agreed upon by the agency and JCAR been made as indicated in the agreement letter issued by JCAR? Yes
- 13) Will this rulemaking replace an emergency rule currently in effect? No

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14) Are there any amendments pending on this Part? No

15) Summary and Purpose of Rulemaking: This rulemaking implements Public Act 89-107, which creates the Special County Occupation Tax for Public Safety Law, which provides that the County Board of any county with a population in excess of 180,000 inhabitants may impose a tax upon persons engaged in the business of making sales of service, who, as an incident to making those sales of service, transfer tangible personal property within the county as an incident to the sale of service to provide revenue to be used exclusively for public safety purposes in that county.

16) Information and questions regarding these adopted rules shall be directed to:

Name: Gina Roccaforte, Associate Counsel
Address: Illinois Department of Revenue
Legal Services Office
101 West Jefferson
Springfield, Illinois 62794
Telephone: 217/782-6996

The full text of the Adopted Rule begins on the next page:

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TITLE 86: REVENUE
CHAPTER I: DEPARTMENT OF REVENUE

PART 680

SPECIAL COUNTY SERVICE OCCUPATION TAX FOR PUBLIC SAFETY

Section	
680.101	Nature of the Special County Service Occupation Tax For Public Safety
680.105	Registration and Returns
680.110	Claims to Recover Erroneously Paid Tax
680.115	Jurisdictional Questions
680.120	Incorporation of Service Occupation Tax Regulations by Reference
680.125	Penalties, Interest and Procedures
680.130	Effective Date

AUTHORITY: Implementing Section 5-1006.5 of the Special County Occupation Tax For Public Safety Law of the Counties Code [55 ILCS 5/5-1006.5] and authorized by Section 39b29 of the Civil Administrative Code of Illinois [20 ILCS 2505/39b29].

SOURCE: Adopted at 20 Ill. Reg. 13073, effective

SEP 24 1996

Section 680.101 Nature of the Special County Service Occupation Tax For Public Safety

a) **Authority to Impose Tax**

The County Board of any county with a population in excess of 180,000 inhabitants, as determined by the most recent decennial census, is authorized by Section 5-1006.5 of the Counties Code [55 ILCS 5/5-1006.5] (the Code) to impose a tax on all persons engaged in the business of making sales of service in such county, at the same rate of tax imposed pursuant to Section 5-1006.5 of the selling price of all tangible personal property transferred by such serviceman either in the form of tangible personal property or in the form of real estate as an incident to such sale of service. If imposed, such tax shall only be imposed in 1/4% increments. The tax imposed by a county under the Code and this Part, and all civil penalties that may be assessed as an incident thereof, shall be collected and enforced by the Illinois Department of Revenue (Department).

b) **Passing on the Tax**

Servicemen are required to collect the Special County Service Occupation Tax For Public Safety (when applicable) from purchasers of service in conformance with the requirements of the Service Occupation Tax Regulations (86 Ill. Adm. Code 140). The legal incidence of the Special County Service Occupation Tax For Public Safety is on the serviceman. Nevertheless, the General Assembly has authorized persons subject to any tax imposed pursuant to the authority granted in the

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Special County Service Occupation Tax For Public Safety Law to reimburse themselves for their servicemen's Special County Service Occupation Tax For Public Safety liability by separately stating such tax as an additional charge, which charge may be stated in combination, in a single amount, with State tax which servicemen are authorized to collect under the Service Use Tax Act [35 ILCS 110], pursuant to such bracket schedules as the Department has prescribed (see 86 Ill. Adm. Code 150.7 Table A).

- c) Exclusion from "Cost Prices"
- Any amount added by a serviceman to the selling price of tangible personal property as an incident to service because of a Special County Service Occupation Tax For Public Safety, or because of the Illinois Service Occupation Tax [35 ILCS 115], the Home Rule Municipal Service Occupation Tax [65 ILCS 5/8-11-5], the Non-Home Rule Municipal Service Occupation Tax [65 ILCS 5/8-11-1.4], the Metro East Mass Transit District Service Occupation Tax [70 ILCS 3610/5.01], the Regional Transportation Authority Service Occupation Tax [70 ILCS 3615/4.03] or the County Water Commission Service Occupation Tax [70 ILCS 3720/4(c)], shall not be regarded as a part of the selling price which is subject to such Special County Service Occupation Tax For Public Safety.

Section 680.105 Registration and Returns

- a) A serviceman's registration under the Service Occupation Tax Act [35 ILCS 115] or the Illinois Retailers' Occupation Tax Act [35 ILCS 120] is sufficient for the purposes of the Special County Service Occupation Tax For Public Safety Law. No special registration for the Special County Service Occupation Tax For Public Safety is required.
- b) The information required for the Special County Service Occupation Tax For Public Safety shall be furnished on the taxpayer's Illinois Service Occupation Tax return form.
- c) The provisions of the Service Occupation Tax Regulations (86 Ill. Adm. Code 140) shall apply to the tax imposed pursuant to this Part.

Section 680.110 Claims to Recover Erroneously Paid Tax

Claims for Multiple Taxes. If a claimant files a claim for refund on a transaction which was subject to State and local taxes administered by the Department, the claim need not be filed separately for each type of tax. A single claim for the total of all applicable taxes will suffice. The claim will be audited, heard, or otherwise processed as a single claim whenever possible. A single credit memorandum will be issued which may be used by the claimant or his authorized assignee to pay State or local tax liability.

Section 680.115 Jurisdictional Questions

- a) When used in this Part, "county" includes all territory located within

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the county, including all territory within cities, villages or incorporated towns, including an incorporated town which has superseded a civil township.

- b) If the Illinois Service Occupation Tax on a transaction is being remitted to the Department by the serviceman, the serviceman shall also pay Special County Service Occupation Tax For Public Safety to the Department on the same transaction if such serviceman's place of business is located in a county which has adopted the Special County Service Occupation Tax For Public Safety. This is true whether the serviceman bought the property in Illinois or outside Illinois.

Section 680.120 Incorporation of Service Occupation Tax Regulations by Reference

To avoid needless repetition, the substance and provisions of all Service Occupation Tax Regulations (86 Ill. Adm. Code 140) which are not incompatible with the Special County Service Occupation Tax For Public Safety Law or any special Regulations that may be promulgated by the Department thereunder shall apply to the tax imposed pursuant to this Part.

Section 680.125 Penalties, Interest and Procedures

All penalties (both civil and criminal), provisions concerning interest and procedures (such as the making of assessments, the venue and mode of conducting hearings, subpoenas, matters pertaining to judicial review and other procedural subjects), together with statutes of limitation, are the same under the Special County Service Occupation Tax For Public Safety Law as under the Service Occupation Tax Act.

Section 680.130 Effective Date

An ordinance or resolution imposing or discontinuing or effecting a change in the rate of a tax imposed under the Special County Service Occupation Tax For Public Safety Law shall be adopted and a certified copy thereof filed with the Department on or before the first day of June, whereupon the Department shall proceed to administer and enforce the ordinance or resolution as of the first day of January next following such adoption and filing. For this purpose, the date of the sale of service is deemed to be the date of the delivery, to the user, of the tangible personal property which the serviceman retransfers as an incident to service.

SECRETARY OF STATE

NOTICE OF ADOPTED AMENDMENTS

- 1) Heading of the Part: Public Library Construction Grants
- 2) Code Citation: 23 Ill. Adm. Code 3060
- 3) Section Numbers: Adopted Action:
3060.800 Amendment
3060.1100 Amendment

- 4) Statutory Authority: Implementing Section 3 of the Capital Development Bond Act of 1972 (30 ILCS 420/3) and authorized by Sections 3 and 9 of the Illinois Library System Act (75 ILCS 10/3 and 8).

- 5) Effective Date of Rulemaking: September 20, 1996

- 6) Does this rulemaking contain an automatic repeal date? No

- 7) Does this rulemaking contain incorporations by reference? No

- 8) Date Filed in Agency's Principal Office: September 20, 1996

- 9) Notice of Proposal Published in Illinois Register: April 12, 1996; 20 Ill. Reg. 5490.

- 10) Has JCAR issued a Statement of Objections to these rules? No

- 11) Difference(s) between proposal and final version: Section 3060.800(cv)(13) was completely revised.

- 12) Have all the changes agreed upon by the agency and JCAR been made as indicated in the agreement letter issued by JCAR? Yes

- 13) Will this rulemaking replace an emergency rule currently in effect? No

- 14) Are there any amendments pending on this Part? No

- 15) Summary and Purpose of Rulemaking: The rules modify the requirements for paying grant funds to the grant recipients and requires that grant recipients will publicly announce all requirements for architectural, engineering, and land surveying services.

- 16) Information and questions regarding these adopted amendments shall be directed to:

Name: Kathleen Bloomberg
Address: Associate Director for Administration
Illinois State Library
300 S. Second Street
Springfield, IL 62701-1796

SECRETARY OF STATE

NOTICE OF ADOPTED AMENDMENTS

Telephone: 217/785-0052 FAX 217/782-6062
kbloom@library.sos.state.il.us Internet

The full text of the Adopted Amendment begins on the next page:

SECRETARY OF STATE

NOTICE OF ADOPTED AMENDMENTS

TITLE 23: EDUCATION AND CULTURAL RESOURCES
SUBTITLE B: CULTURAL RESOURCES
CHAPTER I: SECRETARY OF STATE

PART 3060

PUBLIC LIBRARY CONSTRUCTION GRANTS

SUBPART A: INTRODUCTION

Section

3060.100 Program Purpose
3060.200 Duty to Administer
3060.400 Definitions

SUBPART B: GRANT APPLICATION

Section

3060.500 Priorities in Library Grant Construction Proposals
3060.600 Grant Funding Limitations
3060.700 The Chicago Public Library Branches
3060.800 Grant Application Procedure
3060.900 Requirements and Conditions of Grant Funds
3060.1000 Remodeling for Accessibility
3060.1100 Disbursement of Grant Funds

SUBPART C: APPEAL PROCEDURE

Section

3060.2000 Appeal Procedure

APPENDIX A EDA Qualified Areas (Repealed)

AUTHORITY: Implementing Section 3 of the Capital Development Bond Act of 1972 [30 ILCS 420/3] and authorized by Sections 3 and 8 of the Illinois Library System Act [75 ILCS 10/3 and 8].

SOURCE: Emergency rules adopted and codified at 7 Ill. Reg. 2017, effective January 28, 1983, for a maximum of 150 days; emergency expired June 27, 1983; adopted at 8 Ill. Reg. 2510, effective February 10, 1984; Part repealed, new Part adopted by emergency action at 9 Ill. Reg. 4560, effective March 20, 1985, for a maximum of 150 days; emergency expired August 17, 1985; Part repealed, new Part adopted at 9 Ill. Reg. 15004, effective September 25, 1985; emergency amendment at 9 Ill. Reg. 17885, effective November 4, 1985, for a maximum of 150 days; emergency expired April 3, 1986; amended at 10 Ill. Reg. 20002, effective November 19, 1986; amended at 12 Ill. Reg. 11264, effective July 1, 1988; emergency amendment at 17 Ill. Reg. 18687, effective October 12, 1993, for a maximum of 150 days; amended at 18 Ill. Reg. 4996, effective March 14, 1994; amended at 19 Ill. Reg. 12493, effective August 22, 1995; amended at 20

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Ill. Reg. 13078, effective SEP 29 1996
SUBPART B: GRANT APPLICATION

Section 3060.800 Grant Application Procedure

The following application procedures shall apply:

- a) An "Intent to Apply" letter shall be submitted to the respective Regional Planning Commission in advance of the application for a construction grant. A copy of the reply from the applicable Regional Planning Commission and a copy of the "Intent to Apply" letter shall be submitted to the Illinois State Library.
- b) The Illinois State Library shall issue application forms for library construction grants under this program.
- c) Applying libraries and library systems shall submit the completed library construction grant application together with the following documents or written assurances to be eligible for library construction grants:
 - 1) An assurance that the real estate affected by the proposed construction is available to the library or library system.
 - 2) The legal description of the affected real estate.
 - 3) An assurance that other funds are available or how they will be secured by the library. Funds which will be available upon the grant award may include a mortgage commitment letter from a lender or a promise to donate funds. Assurances from the applicant that various fund-raising activities will be undertaken in the future, where the amount to be raised remains uncertain, shall not be counted as part of the local matching funds for the purposes of Section 3060.100.
 - 4) An assurance that the library will expend 90% of Secretary of State Library construction grant funds within 12 months after the execution of the grant agreement. The final 10% of grant funds will be reimbursed upon receipt by the State Library of the close-out report, including the final audit, if applicable.
 - 5) A building program including preliminary construction plans.
 - 6) A site plan of the proposed building.
 - 7) An estimated cost per square foot (for additions and new construction).
 - 8) A statement describing the necessity for the proposed project.
 - 9) A statement of plans to meet existing library standards of service ("Avenues to Excellence II: Standards for Public Library Service in Illinois" - Chicago IL, Illinois Library Association, 1989). The material incorporated by reference includes no later amendments or editions. This subsection shall not apply to library systems.
 - 10) A description of the project's potential contribution to the improvement of library services within the library's area of service and in any other portions of the State.

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- 11) An assurance that the library will secure a fidelity bond naming the Office of the Illinois Secretary of State as the exclusive beneficiary in an amount equal to 1.25 times the grant award.
- 12) An assurance that construction work will be performed by the lump sum (fixed price) contract method.
- 13) An assurance that the library will publicly announce all requirements for architectural, engineering, and land surveying services and procure these services on the basis of demonstrated competence and qualifications and negotiate contracts at fair and reasonable prices.
- 14) An assurance that adequate methods of obtaining competitive bidding will be employed prior to awarding the construction contract, either by public advertising or circularizing three or more bidders, and that the award of the contract will be made to the responsible bidder submitting the lowest acceptable bid.
- 15) An assurance that all laborers and mechanics employed by the contractor or subcontractors on all construction projects assisted by the Act shall be paid wages at rates not less than those prevailing on similar construction in the locality, as determined by the Illinois Department of Labor in accordance with the Prevailing Wage Act (820 ILCS 130).
- 16) An assurance that a copy of the building permit shall be supplied to the Illinois State Library prior to the actual construction and that the permit shall be posted in a prominent place on the construction site.
- 17) An assurance that all contractors and subcontractors shall comply with the provision of the Copeland Anti-Kick Back Act (40 U.S.C. 276c (1982)) supplemented in U.S. Department of Labor regulations (29 CFR 3 (1985)). The material incorporated by reference includes no later amendments or editions.
- 18) An assurance that contractors and subcontractors shall comply with all applicable provisions of the Illinois Human Rights Act (775 ILCS 5) and all Federal and State laws, rules, and regulations which prohibit discrimination because of race, color, religion, sex, marital status, national origin, ancestry, age, and physical or mental handicap.
- 19) An assurance that architectural, engineering and land surveying contracts will be made in accordance with the Local Government Professional Services Selection Act [50 ILCS 510].
- 20) An assurance that construction contracts signed by both the library board (or library system board) and contractors will be prepared on standard American Institute of Architecture (AIA) forms that are submitted to the Illinois State Library prior to the start of construction; also, all subcontractors are to perform work in accordance with the conditions and standards contained in the contracts signed by the board and the Illinois State Library. The Illinois State Library shall have the right to disapprove any such contracts between the library board or

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- library system board and contractors if:
- A) The bidding procedure outlined in subsection (c)(11) was not followed.
- B) The conditions and standards specified in the contract between the Illinois State Library and the library board are not incorporated into the contracts between the library board or library system board and the contractors.
- 21) An assurance that a revised budget will be prepared after bids have been accepted and will be submitted to the Illinois State Library for approval prior to actual construction. Such approval will be based on the exercise of professional judgment to insure that the provision of library services will not be harmed by the changes reflected in the revised budget. Such approval will also be based on the reduction in the contingency line item from 5% in the original budget to 2% of total project cost in the revised budget. Grant monies awarded are based on the amount increased in the original budget; grant awards will not be increased because of subsequent increases in revised budgets.
- 22) An assurance that a plaque will be placed in the completed building stating that State funds administered by the Secretary of State and State Librarian were used for the building's construction.
- 23) An assurance that permits any agent authorized by the Illinois State Library, upon presentation of credentials to, in accordance with the constitutional limitation on administrative searches, have full access to and the right to examine any records, books, papers, or documents, of the grantee involving transactions related to the grant.
- 24) An assurance that the construction will commence within 140 days after the effective date of the grant contract, and that the project will be completed within a reasonable length of time.
- 25) An assurance that a sign will be displayed on the construction site stating that State funds administered by the Secretary of State and State Librarian are being used for the construction.
- 26) An assurance that the following reports and records will be completed and transmitted to the Illinois State Library: Monthly reports of interest earned on grant funds, quarterly narrative and financial reports; notification within 15 days of completion of the project; a close-out report which is a final financial and narrative report within 90 days after the completion of the project; and other reports and documents, such as prevailing wage rates and receipts to verify vouchers, as reasonably may be required by the State.
- A) Financial reports shall show the amount of authorized State and local funds, interest earned on grant funds, expenditures made from grant funds and from interest earned on grant funds, obligated funds by amount and by percentage of line item remaining as compared to the original budget.

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B) Narrative reports shall state the progress of the Project, accomplishments to date, problems encountered, objectives met and unmet, changes implemented, and the percentage of completion of the Project to date.

C) The close-out report shall evaluate the degree to which the grantee achieved the goals and objectives of the Project. The close-out report shall include a project audit report which shall be completed by an independent certified public accountant or accounting firm using generally accepted accounting principles. The project audit report shall include financial statements and compliance statements (which indicate that grant monies have been obligated in compliance with applicable laws and regulations of the State of Illinois and this Part).

27)26† An assurance that the building will remain in use as a public library or library system facility for not less than twenty years after its construction unless other use is approved by the Illinois State Library.

28)27† An assurance letter from the Historic Preservation Agency stating the project is in compliance with all of the requirements related to the National Register of Historic Places.

29)28† An assurance letter from the Illinois State Water Survey Division of the Illinois Department of Energy and Natural Resources stating that the project site is not located in a Special Flood Hazard Area. If the project site is located in a Special Flood Hazard Area, the applicant shall submit an assurance letter from the Division of Water Resources, the Illinois Department of Transportation, stating that the project meets the requirements of Executive Order 79-4 regarding flood damages.

30)29† An assurance that any change in the Plans and Specifications requiring a work change order will be submitted to the Illinois State Library; any change order of \$10,000 or more will be submitted to the Illinois State Library for approval prior to being effected. The change order will be approved if the change does not have an adverse impact on library services.

31)30† An assurance that any interest earned on the grant funds will be expended, without limitation or exception, exclusively on the subject construction project.

d) All applications will be considered by the Illinois State Library Advisory Committee in accordance with the provisions of this Part.

(Source: Amended at 20 Ill. Reg. 13078, effective SEP 20 1996)

Section 3060.1100 Disbursement of Grant Funds

The Illinois State Library shall disburse grant funds in accordance with the

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following schedule:

a) 45% upon approval of the subject application and execution of the grant agreement;

b) 45% upon receipt by the Illinois State Library of the following items as listed in the Assurance of Compliance:

1) A list of bids submitted and bids accepted

2) A revised project budget after bids have been accepted

3) A revised construction schedule after bids have been accepted

4) A copy of the building permit

5) Copies of each contract signed, including:

A) general contractor

B) prime contractor

C) any contracts for which separate bids were advertised and received (e.g., carpeting, equipment)

D) subcontractors (if contracts are to be signed later, copies can be sent as signed but prior to the start of the subcontractor's work)

6) Notification of the erection on the construction site of a sign stating that library construction funds administered by the Secretary of State and State Librarian are being used for the construction

7) Quarterly narrative and financial reports to date

8) An assurance that the library has secured a fidelity bond naming the Office of the Illinois Secretary of State as the exclusive beneficiary in an amount equal to one and a quarter times the grant award

9) Letter of notification as to the official date of actual construction start. Construction should begin within 140 days after the effective date of the contract with the Illinois State Library

10) Submission of any projected project expenditure changes including identification in detail of how the grant is to be spent;

1) ~~a-revised-construction-schedule~~

2) ~~a-copy-of-building-permit~~

3) ~~a-revised-budget-after-bid-acceptance~~

4) ~~a-copy-of-subject-library's-contract-with-general-contractor~~

5) ~~notification-of-the-erection-on-the-construction-site-of-a--stop--that--library-construction--funds--administered--by-the--Secretary-of-State-and-State-Librarian--are--being--used--for--the--construction~~

6) ~~quarterly-narrative-and-financial-reports-to-date--and~~

c) 10% upon completion of the project and receipt and approval of the close-out reports by the Illinois State Library.

(Source: Amended at 20 Ill. Reg. 13078, effective SEP 20 1996)

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1) Heading of the Part: Fire Prevention and Safety

2) Code Citation: 41 Ill. Adm. Code 100

3) Section Numbers: Adopted Action:
100.7 Amend

4) Statutory Authority: Section 9 of the Fire Investigation Act [425 ILCS 25/9]

5) Effective Date of Rulemaking: September 20, 1996

6) Does this rulemaking contain an automatic repeal date? No

7) Does this rulemaking contain incorporations by reference? No

8) Date Filed in Agency's Principal Office: September 20, 1996

9) Notice of Proposal Published in Illinois Register: September 22, 1995 (19 Ill. Reg. 13176)

10) Has JCAR issued a Statement of Objections to these Rules? No

11) Difference(s) between proposal and final version:

At 100.7(e)(4)(B) the Office amended the original proposal by adding language that:

1) allows the use of a basement escape window as a secondary means of escape in home day care and group home day care occupancies even though the window may not be sized in accordance with current Life Safety Code requirements. The Office will ensure equivalent fire safety by requiring that windows with dimensions or area smaller than that currently required, have their use demonstrated to a representative of the Office of the State Fire Marshal. Specifically, the proposed change will require that all of the home's occupants, including staff and clients, be able to escape the occupancy through the undersized window in a time period not to exceed three minutes if it is to be accepted in lieu of a properly sized escape window.

2) codifies a currently recognized agency practice, of allowing the use of permanently affixed stairs or ramps to bring clients within the required 44 inches of the bottom sill of such a secondary escape window. The current Life Safety Code requirements state that the bottom of the window sill must be within 44 inches of the floor in order for the window to be considered as a secondary means of escape. However, the agency has been presented with several cases where properly sized windows, that have bottom sills greater than 44 inches

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above the floor, can be easily approached through the use of stairs or a ramp leading up to the window. The agency is requiring that such stairs be permanently affixed in place so as to be available at the time of emergency.

The Office also made the following minor spelling and/or grammatical corrections:

In 100.7(e)(4)(B) corrected the spelling of "Marshal".

In 100.7(e)(4)(B) corrected the punctuation by omitting the word "three" and leaving the number "3".

12) Have all the changes agreed upon by the agency and JCAR been made as indicated in the agreement letter issued by JCAR? Yes

13) Will this rulemaking replace an emergency rule currently in effect? No

14) Are there any amendments pending on this Part? No

15) Summary and Purpose of Rulemaking:

By this Notice of Adopted Amendments, the Office is updating Part 100 to allow owners of day care home and "group" day care home occupancies alternate but "equivalently safe" methods of complying with the currently existing basement exiting requirements for such facilities.

Current rules directly reference the 1985 and 1991 editions of the National Fire Protection Association's Standard #101 "Life Safety Code" which permit only a "direct exit" from occupied basements day care home and group day care home occupancies. This amendment will permit the alternatives of a) a one-hour fire resistant path of egress through the grade level of the home; or b) automatic fire sprinkler protection of the path of egress through the grade level of the home combined with multi-station smoke detection on all levels of the home, to serve as equivalently safe methods of code compliance for exiting from basement levels of these occupancies.

Furthermore, the adopted amendments allow the use of a basement escape window as a secondary means of escape in home day care and group home day care occupancies even though the window may not be sized in accordance with current Life Safety Code requirements. The Office will ensure equivalent fire safety by requiring that windows with dimensions or area smaller than that currently required, have their use demonstrated to a representative of the Office of the State Fire Marshal. Specifically, the proposed change will require that all of the home's occupants, including staff and clients, be able to escape the occupancy through the undersized window in a time period not to exceed three minutes if it is to be

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accepted in lieu of a properly sized escape window.

The adopted amendments also serve to codify a currently recognized agency practice of allowing the use of permanently affixed stairs or ramps to bring clients within the required 44 inches of the bottom sill of such a secondary escape window. The current *Life Safety Code* requirements state that the bottom of the window sill must be within 44 inches of the floor in order for the window to be considered as a secondary means of escape. However, the agency has been presented with several cases where properly sized windows, that have bottom sills greater than 44 inches above the floor, can be easily approached through the use of stairs or a ramp leading up to the window. The agency is requiring that such stairs be permanently affixed in place so as to be available at the time of emergency.

- 16) Information and questions regarding this adopted amendment shall be directed to:

Mr. Jack Ahern
Deputy State Fire Marshal
Division of Fire Prevention
Office of the State Fire Marshal
100 W. Randolph Street Suite 11-800
Chicago, IL 60601
(312) 814-2693

The full text of the Adopted Amendment begins on the next page:

OFFICE OF THE STATE FIRE MARSHAL

NOTICE OF ADOPTED AMENDMENTS

TITLE 41: FIRE PROTECTION
CHAPTER 1: OFFICE OF THE STATE FIRE MARSHALPART 100
FIRE PREVENTION AND SAFETY

Section	Introduction
100.1	Title, Jurisdiction, Powers, Penalties, Right of Entry, Existing Structures
100.3	Building Construction Types
100.4	Fire Areas
100.5	Adoption of NFPA 101, Life Safety Code by Reference
100.7	Modification of N.F.P.A. 101 (1985) for Existing Day Care Facilities and Programs
100.110	

APPENDIX A Modification of Standards Referenced in NFPA 101

AUTHORITY: Implementing and authorized by Section 9 of the Fire Investigation Act [425 ILCS 25/9].

SOURCE: Illinois Rules and Regulations for Fire Prevention and Safety, amended September 24, 1973; amended January 8, 1974; Rules and Regulations relating to Fireworks filed October 8, 1974; codified at 5 Ill. Reg. 10673; amended at 6 Ill. Reg. 13021, effective December 15, 1982; amended at 7 Ill. Reg. 16399, effective January 1, 1984; amended at 9 Ill. Reg. 1009, effective July 1, 1985; Sections 100.81, 100.82 and 100.85 recodified to 41 Ill. Adm. Code 105.5, 105.10 and 105.20 at 11 Ill. Reg. 5992; Part repealed, new Part adopted at 12 Ill. Reg. 8017, effective August 1, 1988; emergency amendment at 13 Ill. Reg. 582, effective January 3, 1989, for a maximum of 150 days; emergency expired June 2, 1989; amended at 13 Ill. Reg. 12547, effective July 14, 1989; amended at 13 Ill. Reg. 19127, effective November 1, 1993; amended at 20 Ill. Reg. 13086, effective SEP 24 1996.

Section 100.7 Adoption of NFPA 101, Life Safety Code by Reference

- a) For the purposes of subsections (b) and (c) of this Section:
- 1) "New facility" shall mean either a facility constructed after November 1, 1993, or any facility the occupancy (use) classification of which changes after November 1, 1993. Any alterations or installations of new equipment, either regulated by these rules or outlined in the Life Safety Code, shall be accomplished as nearly as practicable in conformance with the requirements for new construction.
 - 2) "Existing facilities" are those not classified as "new facilities" by subsection (a)(1) of this Section.
 - b) Applicable to existing facilities, as defined in subsection (a) of this Section, the Office of the State Fire Marshal adopts the "Code for Safety to Life from Fire in Buildings and Structures" as published

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by the National Fire Protection Association (NFPA 101) 1985 edition, Life Safety Code. This incorporation does not include any later amendments or editions.

- c) Applicable to new facilities, as defined in subsection (a) of this Section, the Office of the State Fire Marshal adopts the following provisions of the "Code for Safety to Life from Fire in Buildings and Structures" as published by National Fire Protection Association (NFPA 101) 1991 edition, Life Safety Code to the extent those provisions do not conflict with the provisions of this Part. This incorporation does not include any later amendments or editions.

- Chapter 1. Administration
- Chapter 2. Fundamental Requirements
- Chapter 3. Definitions
- Chapter 4. Classification of Occupancy and Hazard of Contents
- Chapter 5. Means of Egress
- Chapter 6. Features of Fire Protection
- Chapter 7. Building Service and Fire Protection Equipment
- Chapter 8. New Assembly Occupancies
- Chapter 10. New Educational Occupancies
- Chapter 12. New Health Care Occupancies
- Chapter 14. New Detention and Correctional Occupancies
- Chapter 16. New Hotels and Dormitories
- Chapter 18. New Apartment Buildings
- Chapter 20. Lodging or Rooming Houses
- Chapter 22. New Residential Board and Care Occupancies
- Chapter 24. New Mercantile Occupancies
- Chapter 26. New Business Occupancies
- Chapter 28. Industrial Occupancies
- Chapter 29. Storage Occupancies
- Chapter 30. Special Structures and High-Rise Buildings
- Chapter 31. Operating Features
- Chapter 32. Referenced Publications

- d) The Life Safety Code becomes the code for Fire Prevention and Safety subject to the modifications set forth in this Part. NFPA 101, Life Safety Code (1985 and 1991 Editions) is on file with the Office of the State Fire Marshal at the following locations:

1035 Stevenson Drive
Springfield, Illinois 62703-4259

State of Illinois Building
100 W. Randolph Street
Chicago, Illinois 60601

2209 West Main Street
Marion, Illinois 62959

Copies are available for purchase from:

OFFICE OF THE STATE FIRE MARSHAL

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National Fire Protection Association
Batterymarch Park
Quincy MA 02269

- e) Modifications to the Life Safety Code

- 1) Child Care facilities
 - A) Day Care Centers. Those facilities regulated under Chapter 10-7 (Day-Care Centers) of the Life Safety Code shall include only:
 - i) any facility licensed as a Day Care Center by the Department of Children and Family Services;
 - ii) any unlicensed facility that regularly provides day care for less than 24 hours per day for more than 8 children in a family home, or more than 3 children in a facility other than a family home;
 - iii) part day child care facilities, as defined in the Child Care Act of 1969.
 - B) Day Care Homes. Those facilities regulated under Chapter 10-9 (Family Day-Care Homes) of the Life Safety Code shall include only:
 - i) any facility licensed as a day care home by the Department of Children and Family Services;
 - ii) any unlicensed facility that is a family home that receives more than 3 up to a maximum of 12 children for less than 24 hours per day. The number counted includes the family's natural or adopted children and all other persons under the age of 12. This subsection does not affect facilities that receive only children from a single household.
 - C) Group Day Care Homes. Those facilities regulated under Chapter 10-8 (Group Day-Care Homes) of the Life Safety Code shall include only:
 - i) any facility licensed as a group day care home by the Department of Children and Family Services; or
 - ii) any unlicensed facility that is a family home that receives more than 3 up to a maximum of 16 children for less than 24 hours per day. The number counted includes the family's natural or adopted children and all other persons under the age of 12.
 - D) For purpose of determining the classification of a child care facility, current Department of Children and Family Services guidelines will be applied.
- 2) Child-to-Staff Ratios
Child-to-Staff ratios in day care facilities shall comply with 89 Ill. Adm. Code 406 and 407 and with the Child Care Act of 1969. Any conflicting provisions of the Life Safety Code are inapplicable.
- 3) One- and Two-Family Dwellings

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Chapter 21 (One- and Two-Family Dwellings) is adopted as recommended guidelines only.

- 4) When clients occupy a level below the level of exit discharge in a day care home or group day care home occupancy, exiting shall be provided in accordance with the requirements of the applicable edition of the Life Safety Code, or with the following:

- A) Primary Means of Egress
- i) If an exit discharging directly to the outside at the basement level is not provided, and therefore occupants must traverse another level of the home to exit, the path of egress through the level of exit discharge shall be separated from the remainder of that level of the home by construction providing a minimum fire resistance rating of 1-hour, or
 - ii) The home shall be equipped with smoke detectors permanently powered by the building's electrical system and wired so that the actuation of one detector will actuate all the detectors in the dwelling. At least one such smoke detector shall be located on each level of the occupancy (excluding unoccupied attics), and the path of egress through the level of exit discharge (from the basement door to the exterior door of the home) must be protected by automatic fire sprinklers. Listed residential sprinklers shall be used and the installation shall be made in accordance with National Fire Protection Association Standard #13B, Installation of Sprinkler Systems in One- and Two-Family Dwellings and Manufactured Homes - 1994 edition.

B) Secondary Means of Egress

If a window is used where the size is not in accordance with the applicable edition of the Life Safety Code, the owner or operator of the day care or group day care home must demonstrate to an on-site representative of the Office of the State Fire Marshal that all occupants (staff and clients) can escape through the window to the exterior of the home in 3 minutes or less. The bottom sill of any window used as a secondary means of escape shall be within 44 inches of the floor as required by the Life Safety Code, or a permanently fixed stair or ramp shall be installed at the window to allow occupants to be within 44 inches of the bottom window sill when standing atop the stair or ramp.

(Source: Amended at 20 Ill. Reg. 13086, effective SEP 24 1996)

DEPARTMENT OF FINANCIAL INSTITUTIONS

NOTICE OF EMERGENCY AMENDMENT

- 1) Heading of the Part: Illinois Credit Union Act
- 2) Code Citation: 38 Ill. Adm. Code 190
- 3) Section Numbers: Proposed Action:
190.20 Amendment
- 4) Statutory Authority: 205 ILCS 305.
- 5) Effective Date of Amendment: September 27, 1996
- 6) If this emergency amendment is to expire before the end of the 150-day period, please specify the date on which they expire: NA
- 7) Date Filed in Agency's Principal Office: September 27, 1996
- 8) Reason for Emergency: The circuit court has advised the Department, in a pending case, that the current language may violate constitutional due process rights. This language constitutes a threat to the public interest.
- 9) A. Complete Description of the Subjects and Issues Involved: Section 190.20 currently requires the petitioner to bear the burden of proof in hearings.
- 10) Are there any proposed amendments to this Part Pending? No
- 11) Statement of Statewide Policy Objectives: The objective of the emergency amendment is to shift the burden of proof from the petitioner to the Department. The amendment would not require any additional expenditures of local revenues.

12) Information and questions regarding these amendments shall be directed to:

Name: M. Rose Kelly
Address: Chief Counsel
Department of Financial Institutions
100 W. Randolph, 15-700
Chicago, IL 60601
Telephone: 312/814-2008

The full text of the emergency amendments begins on the next page:

DEPARTMENT OF FINANCIAL INSTITUTIONS

NOTICE OF EMERGENCY AMENDMENT

TITLE 38: FINANCIAL INSTITUTIONS
CHAPTER I: DEPARTMENT OF FINANCIAL INSTITUTIONS

PART 190

ILLINOIS CREDIT UNION ACT

Section

190.5	Credit Union Service Organizations
190.10	Field of Membership Procedures
190.20	Hearings
190.30	Cease and Desist Procedures
190.40	Removal or Suspension Procedures
190.50	Fees
190.60	General Accounting Procedures
190.70	Loan Loss Accounting Procedures
190.80	Use of Electronic Data Processing
190.90	Property and Long Term Leases
190.100	Classes of Share and Special Purpose Share Accounts
190.110	Share Drafts
190.120	Bond and Insurance Requirements
190.130	Verification of Share and Loan Accounts
190.140	Real Estate Lending
190.150	Reverse Mortgage
190.160	Lending Limits - Other Than First Mortgage Loans
190.165	Business Loans
190.170	Group Purchasing
190.180	Investments
190.190	Liquidation
190.200	Conversion of Charter

AUTHORITY: Implementing and authorized by the Illinois Credit Union Act [205 ILCS 305].

SOURCE: Adopted at 4 Ill. Reg. 20, p. 17, effective May 7, 1980; amended at 6 Ill. Reg. 11154, effective September 7, 1982; amended and codified at 7 Ill. Reg. 14973, effective October 26, 1983; emergency amendment at 9 Ill. Reg. 14378, effective September 11, 1985, for a maximum of 150 days; amended at 9 Ill. Reg. 16231, effective October 10, 1985; amended at 10 Ill. Reg. 14667, effective August 27, 1986; amended at 12 Ill. Reg. 10464, effective June 7, 1988; amended at 12 Ill. Reg. 17383, effective October 24, 1988; amended at 13 Ill. Reg. 15998, effective October 2, 1989; emergency amendment at 16 Ill. Reg. 12781, effective July 29, 1992, for a maximum of 150 days; amended at 16 Ill. Reg. 17073, effective October 26, 1992; amended at 19 Ill. Reg. 2826, effective February 24, 1995; amended at 20 Ill. Reg. 5803, effective April 8, 1996; emergency amendment at 20 Ill. Reg. **13093**, effective September 20, 1996, for a maximum of 150 days.

Section 190.20 Hearings

DEPARTMENT OF FINANCIAL INSTITUTIONS

NOTICE OF EMERGENCY AMENDMENT

Upon written request, the Director will authorize a formal hearing to review the propriety of administrative actions and regulatory decisions made pursuant to the Act.

a) Hearing Officers.

The Director may designate, in writing, a hearing officer who shall have the authority to:

- 1) examine or permit examination of any witness under oath;
 - 2) determine the order of appearance of all parties;
 - 3) receive all evidence and testimony and rule on its admissibility as well as require the production of any relevant document or witness;
 - 4) rule on objections to evidence;
 - 5) make a written report with recommendations to the Director which shall include findings of fact and conclusions of law with respect to the claim. Findings of fact shall be based exclusively on the evidence and on matters officially noticed; and
 - 6) require any party or his attorney to provide proposed findings of fact or conclusion of law for consideration in his report.
- b) General Provisions.
- 1) When a hearing is scheduled pursuant to this Act, the petitioner or his attorney shall be notified by certified or registered mail, return receipt requested, at least ten days prior to the date set for such hearing. Delivery of notice to the United States Postal Service shall constitute delivery.
 - 2) A continuance shall be granted for good cause by the Director or his designee which shall be:
 - A) in writing, in duplicate and signed by the petitioner or his attorney and shall state the reasons for the request;
 - B) delivered to the Director or his designee at least three days prior to the scheduled hearing.
 - 3) For the purposes of this paragraph good cause shall require the petitioner to demonstrate real and compelling need for additional time. It shall include but not be limited to illness, service in the armed forces, etc.
 - 4) Failure to attend a hearing shall result in the dismissal of the party's petition and the assessment of the costs for such a hearing upon the party. A person whose petition has been so dismissed shall not resubmit until the assessed costs have been paid, unless he successfully petitions the Director for reconsideration, by establishing that his failure to attend was occasioned by events beyond his control and he exercised due diligence to attend or seek a continuance.
 - 5) Any party to a proceeding may order a court reporter to transcribe the proceeding. If the petitioner makes the request, he shall pay all costs associated with said transcript. If the court reporter is ordered by the hearing officer, any party may purchase a transcript.

DEPARTMENT OF FINANCIAL INSTITUTIONS

NOTICE OF EMERGENCY AMENDMENT

- 6) The Director shall assess all costs and attorneys' fees against any party who has unreasonably delayed a proceeding or has filed a claim in bad faith. "Unreasonable delay of a proceeding" shall be determined to exist upon a preponderance of evidence indicating that the petitioner is purposely delaying the hearing either actively or through inattention to detail. A determination of "filing a claim in bad faith" requires a preponderance of evidence that the hearing petition was filed merely to stay Department action with no intent for expeditious resolution of the contested issue.

c) Conduct of Hearings.

- 1) The hearing officer shall open the hearing by presenting for the record his letter of authorization from the Director. ~~The petitioner--or--his--attorney--shall--then--present--his--case--and--the--proof--thereof--The--proof--may--include--testimony--or--any--document--relevant--to--the--claim~~
- 2) The rules of evidence and privilege as applied in civil cases in the Circuit Courts of this State shall be followed. The hearing officer may admit evidence not admissible under such rules if such evidence could be relevant to the case.
- 3) The hearing officer may on his own motion or the motion of one of the parties take notice of matters which the Circuit Courts of this State may take judicial notice. *Notice may be taken of generally recognized technical or scientific facts within the Department's specialized knowledge if parties are notified, before or during the hearing, and shall be afforded an opportunity to contest the material so noticed.* The burden of opposing any material admitted upon notice shall be upon the party so opposing.
- 4) No Department employee, or hearing officer shall, after notice of a hearing, communicate with any party or his attorney in connection with any issue in said hearing except upon notice and opportunity for all parties to participate.
- 5) The record of any hearing shall include:
 - A) all pleadings, and evidence received whether admitted or excluded;
 - B) a statement of all matters officially noticed;
 - C) all offers of proof, objections and rulings thereon;
 - D) all proposed findings and exceptions;
 - E) any decision, opinion, or report by the hearing officer;
 - F) any communication prohibited by this rule, although such communication shall not form the basis for any finding of fact;
 - G) any evidence excluded by the hearing officer, even though such evidence is not used in the determination of the claim;
 - H) a proceeding transcript which shall be recorded by such means as to adequately insure the preservation of the testimony.

DEPARTMENT OF FINANCIAL INSTITUTIONS

NOTICE OF EMERGENCY AMENDMENT

- 6) Within sixty days of the hearing or the receipt of all necessary documents, the hearing officer shall report to the Director, pursuant to 38 Ill. Adm. Code 190.20.
- 7) Within thirty days after receiving the report of the hearing officer, the Director shall issue his decision, which shall be served on claimant and other parties personally or by registered or certified mail, return receipt requested. Copies of the hearing officer's report to the Director are available upon written request from the petitioner.
- d) Petition to Reconsider.
 - 1) Within thirty days after receipt of the Director's decision, any party may petition the Director for reconsideration based upon a verified petition. An affidavit shall accompany the petition stating that the decision was against the manifest weight of the evidence, was contrary to law, or was arbitrary or capricious, and is affected by newly discovered evidence not in existence at the time of the initial hearing or which could not have been discovered using due diligence at that time.
 - 2) The Director shall determine within fifteen days whether to reconsider the case. If reconsideration is allowed, a hearing shall be held pursuant to this rule and shall be limited to the issues raised by the petition and affidavit. If reconsideration is denied, the Director's initial decision shall be the final administrative decision of the Department.

(Source: Emergency amendment at 20 Ill. Reg. **13093**, effective September 27, 1996, for a maximum of 150 days)

DEPARTMENT OF REVENUE

NOTICE OF REFUSAL TO MEET THE OBJECTION OF THE JOINT
COMMITTEE ON ADMINISTRATIVE RULES

- 1) Heading of the Part: General Rules for All Taxes

- 2) Code Citation: 86 Ill. Adm. Code 800

- 3) Section Numbers: Action:
800.1000 New Section
800.4000 New Section

- 4) Date Notice of Proposed Rules Published in the Register (if applicable):
March 29, 1996, 20 Ill. Reg. 5038

- 5) Date JCAR Statement of Objection Published in the Register: July 12,
1996, 20 Ill. Reg. 9387

- 6) Summary of Action Taken by the Agency: The Department of Revenue refuses to meet the objection or to withdraw the rules, and is promulgating the rules as originally proposed.

The Joint Committee objects that the rule as proposed unduly limits the right of taxpayers to file returns by facsimile transmission. Current technology and the resources available to the Department, as well as unresolved legal issues which arise in the filing of tax returns by facsimile transmission, do not allow the Department to offer facsimile filing services to taxpayers except in very limited circumstances. The rule as proposed allows taxpayers to utilize this service in situations where the service is of particular value to the taxpayers, while minimizing the strain on the Department's resources. The rule as proposed also establishes a facsimile filing program which can be used as a pilot program to allow the Department to resolve the technical and legal issues involved before attempting to make the service available for other taxpayers. Accordingly, the Department believes it is in the best interests of the Department and taxpayers to promulgate the rule as proposed rather than to delay the offering of any facsimile filing service until the Department has sufficient resources to offer the service to all taxpayers and all of the legal issues are resolved.

DEPARTMENT OF LABOR

NOTICE OF PUBLIC INFORMATION
LIST OF CONTRACTORS PROHIBITED FROM AN AWARD
OF A CONTRACT OR A SUBCONTRACT
FOR PUBLIC WORKS PROJECTS

Pursuant to Section 11a of the Prevailing Wage Act, 820 ILCS 130/0.01-12 (1994), the Director of the Department of Labor gives notice that the following contractors have been found to have disregarded their obligations to employees under the Prevailing Wage Act on two (2) separate occasions and are prohibited from being awarded any contract or subcontract for a public works project for:

- 1) two (2) years from the date of this publication:

Huffman Farm Supply, Inc
702 Minier Avenue
P.O. Box 463
Minier, Illinois 61759

Mr. John A. Manning, President
Ms. Peggy A. Haning, Secretary

- 2) a two (2) year period ending on August 25, 1997:

Schwanke, Schwanke & Associates
P.O. Box 1204
LaSalle, Illinois 61301

- 3) the period of June 1, 1996 to May 31, 1997:

AKRA Builders, Inc.
P.O. Box 274
Effingham, Illinois 62401

Mr. Paul J. Grunloh, President
Mr. Robert F. Schultz, Secretary

- 4) a two (2) year period ending on May 1, 1997:

Allendorfer Roofing Company
4617-23 North Pulaski Road
Chicago, Illinois 60637

Copies of the Prevailing Wage Act are available at the:

Illinois Department of Labor
Conciliation and Mediation Division
One West Old State Capital Plaza, Room 300
Springfield, Illinois 62701-1217

JOINT COMMITTEE ON ADMINISTRATIVE RULES
ILLINOIS GENERAL ASSEMBLY

SECOND NOTICES RECEIVED

The following second notices were received by the Joint Committee on Administrative Rules during the period of September 17, 1996 through September 23, 1996 and have been scheduled for review by the Committee at its October 15, 1996 meeting. Other items not contained in this published list may also be considered. Members of the public wishing to express their views with respect to a rule should submit written comments to the Committee at the following address: Joint Committee on Administrative Rules, 700 Stratton Bldg., Springfield, IL 62706.

Second Notice Expires	Agency and Rule	Start of First Notice	JCAR Meeting
10/23/96	Department of State Police Merit Board, Procedures of the Department of State Police Merit Board (80 Ill Adm Code 150)	7/19/96 20 Ill Reg 9512	10/15/96
10/31/96	Department of Central Management Services, Pay Plan (80 Ill Adm Code 310)	7/26/96 20 Ill Reg 9777	10/15/96
10/31/96	Department of Corrections, Rights and Privileges (20 Ill Adm Code 525)	2/2/96 20 Ill Reg 1719	10/15/96
10/31/96	Pollution Control Board, Organic Material Emission Standards and Limitations for the Chicago Area (35 Ill Adm Code 218)	1/5/96 20 Ill Reg 122	10/15/96
10/31/96	Office of the Secretary of State, Regulations Under the Illinois Securities Law of 1953 (14 Ill Adm Code 130)	7/26/96 20 Ill Reg 9855	10/15/96
10/31/96	Pollution Control Board, Organic Material Emission Standards and Limitations for the Metro East Area (35 Ill Adm Code 219)	1/5/96 20 Ill Reg 155	10/15/96
11/1/96	Department of Revenue, Income Tax (86 Ill Adm Code 100)	7/26/96 20 Ill Reg 9840	10/15/96
11/2/96	Department of Children and Family Services, Rate Setting (89 Ill Adm Code 356)	7/12/96 20 Ill Reg 8805	10/15/96

JOINT COMMITTEE ON ADMINISTRATIVE RULES
ILLINOIS GENERAL ASSEMBLY

SECOND NOTICES RECEIVED

Second Notice Expires	Agency and Rule	Start of First Notice	JCAR Meeting
11/2/96	Illinois Gaming Board, Riverboat Gambling (86 Ill Adm Code 3000)	6/14/96 20 Ill Reg 7734	10/15/96
11/3/96	Department of Labor, Minimum Wage Law (56 Ill Adm Code 210)	8/2/96 20 Ill Reg 10254	10/15/96
11/3/96	Department of Nuclear Safety, Compensation of Local Governments for Emergency Planning and Participation in Nuclear Emergency Response Exercises (32 Ill Adm Code 501)	6/21/96 20 Ill Reg 8196	10/15/96
11/3/96	Department of Nuclear Safety, Repeal of Plan for the Compensation of Local Governments under Provisions of the "Illinois Nuclear Safety Preparedness Act" (32 Ill Adm Code 501)	6/21/96 20 Ill Reg 8199	10/15/96
11/3/96	Department of Public Aid, Long Term Care Reimbursement Changes (89 Ill Adm Code 153)	7/12/96 20 Ill Reg 8937	10/15/96
11/3/96	Department of Public Aid, Practice in Administrative Hearings (89 Ill Adm Code 104)	7/12/96 20 Ill Reg 8942	10/15/96
11/3/96	Department of Public Aid, Application Process (89 Ill Adm Code 110)	7/12/96 20 Ill Reg 8926	10/15/96

Rules acted upon during the quarter of July 1 through September 30, 1996 are listed in the Issues Index by Title number, Part number and Issue number. For example, 50 Ill. Adm. Code 952 published in Issue 2 will be listed as 50-952-2. Inquiries about the Issues Index may be directed to the Administrative Code Division at 217-782-4414 or jnatale@ccgate.sos.state.il.us (Internet address).

PROPOSED

2-560-39	50-5602-34	89-117-31,35	17-715-33	38-396-33
2-1651-30	50-6301-40	89-120-34	17-720-33	38-900-33
4-1100-40	56-210-31	89-121-31,35	17-730-33	38-610-29
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			38-315-33	86-680-40

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86-800-40	89-114-30	89-115-34	89-121-35	89-125-35
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89-305-28	89-336-31	89-515-30	89-590-31	89-640-31
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80-310-30	89-112-37	89-140-28	89-117-31	89-148-28,37
89-152-28	89-153-28	89-356-28	89-407-33	89-553-31,35
92-1001-28				

PEREMPT.

8-125-31,38

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ILLINOIS REGISTER
ADMINISTRATIVE CODE ORDER FORM

PLEASE USE THIS FORM FOR ALL ORDERS OR TO NOTIFY US OF A CHANGE OF ADDRESS. ALL ORDERS MUST BE PAID IN ADVANCE BY CHECK, MONEY ORDER, VISA OR DISCOVER CARD. CHECKS AND MONEY ORDERS MUST BE PAYABLE TO THE "SECRETARY OF STATE".

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SECRETARY OF STATE
INDEX DEPARTMENT
111 E. MONROE
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